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NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

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A PRELIMINARY INVESTIGATION OF EGO
STAGE AND LEADERSHIP EFFECTIVENESS

by

John H. Garner Jr.

March 1988

Thesis Advisor:

N.C. Roberts

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A Preliminary Investigation of Ego
Stage and Leadership Effectiveness

by

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Lieutenant, United States Navy
B.S., University of Southern Mississippi, 1979

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN TELECOMMUNICATIONS SYSTEMS
MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
March 1988

ABSTRACT

The purpose of this thesis was to investigate a possible relationship between a leader's stage of ego development and his/her effectiveness as a leader. Results, using a small sample of Naval officers and enlisted personnel attached to Naval Communication Station Stockton, CA., reveal a significant correlation between ego level and leadership effectiveness as measured by military rank. Based on this initial study, further investigation of the relationship between ego level and effectiveness is warranted.

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I. INTRODUCTION

A. OBJECTIVES

This thesis is an attempt to determine whether or not a leader's effectiveness is related to his developmental stage. This thesis hypothesizes that leaders at higher stages of development are more effective leaders than leaders at lower stages of development. This hypothesis is tested by measuring the stages of development of fifteen officers and enlisted personnel at various hierarchical positions in a major Naval telecommunications command. Given the small sample size, this thesis is to be considered a pilot study and results should be regarded as tentative until further research can be conducted. It is proposed that this thesis takes an important first step in making more clear the process of selecting, training and promoting leaders thereby giving commanding officers of NTS commands new insight into fitting people to tasks and enhancing organizational effectiveness.

B. ORGANIZATION

Chapter II is a review of the literature that describes earlier efforts to measure and predict a leader's effectiveness. Three predominant areas of leadership study are covered. These are trait theory, behavioral theory and situational theory. The point is made that each theory has propelled knowledge of leadership effectiveness forward, but failed in the attempt to identify which people would make effective leaders. After each theory is discussed, it is critiqued for its weaknesses.

Chapter III discusses developmental theory. Developmental theory is explained in general terms and in terms of the ego and ego stages. Developmental theory is proposed as an alternative approach in the attempt to identify effective leaders. A summary of many of the current criticisms of developmental theory is also provided.

Chapter IV describes the method of research utilized. Demographic data concerning the characteristics of the research sample are provided along with the procedure used in collecting all data. The variables are operationalized and the procedure for testing the hypothesis is outlined.

Chapter V summarizes the data analysis. Observations are made about the variables and the hypothesis is formally tested by checking for a correlation between rank and developmental stage. A discussion of the findings from the hypothesis test follows.

Chapter VI concludes the thesis and indicates areas for further study and research.

II. LITERATURE REVIEW

A. BACKGROUND

This literature review describes the major research efforts undertaken previously that attempt to determine which leaders in an organization are the most effective or determine how leaders in an organization can be trained to become more effective leaders. The product of these research efforts are known as the trait theory, behavioral theory and contingency theory of leadership. Each of these theories has significantly advanced our knowledge of the leadership phenomena, but each has shortcomings too. The purpose of all leadership research is to provide organizations with the capability to *train* people to become more effective leaders or to provide a high probability of success method to *select* effective leaders. For our purposes, an effective leader is defined as a leader who meets the criteria established by the organization. In as much as the above named theories have advanced our knowledge in how to attain effective leadership, they have all fallen short of the mark. This chapter demonstrates this and concludes that there is no real consensus as to what leadership is or how to analyze it.

This chapter will explain the elements of each of the leadership theories and point out their shortcomings. In doing so, we will make clearer the advantage of using *Developmental Theory* as a construct by which to aid an organization in obtaining effective leadership.

The intention of this thesis is to use Developmental Theory as a means of testing the hypothesis; leaders at higher ego levels are more effective leaders. Before delving into this topic, it is first necessary to discuss the above named leadership theories.

B. TRAIT THEORY

1. Description

Quoting from an article by Admiral Arliegh A. Burke, *Fundamentals of Naval Leadership* [Ref. 1] reports that all successful Naval leaders must possess the following qualities:

- Self confidence
- Knowledge
- Enthusiasm
- The ability to express oneself forcefully and clearly.

- The moral courage to eliminate incompetent subordinates.
- The willingness to do something about a cause. [Ref. 1: p.107]

This remark reflects the belief that an effective leader possesses these traits or eventually must develop them. Much of the early work in leadership research focused on determining what personality characteristics set apart effective leaders from ineffective leaders or nonleaders. The assumption was that if long lists of traits could be identified from individuals considered to be leaders, then it would be a straight forward matter to find others with comparable traits who should be selected for leadership roles. This line of reasoning became to be known as the trait theory of leadership.

An exhaustive research completed by Stogdill [Ref. 2: p.58], which compiled findings from 124 studies concerning leadership traits, determined that all the factors associated with leadership could be classified under five general headings. They are:

1. Capacity (intelligence, alertness, verbal facility, originality, judgement)
2. Achievement (scholarship, knowledge, athletic accomplishment)
3. Responsibility (dependability, initiative, persistence, aggressiveness, self confidence, desire to excel)
4. Participation (activity, sociability, cooperation, adaptability, humor)
5. Status (socio-economic position, popularity)

2. Critique

The trait theory of leadership suffers from several flaws. First, in reviewing compilations of traits deemed necessary for successful leadership, it was discovered that out of 106 studies, only five percent of the traits were found in at least four studies. The implication is that some traits may not be required for every leadership role or that some situations may not require a leader's influence at all [Ref. 3 : p.7]. Another implication is that leader traits that are effective in one situation may not be effective in another situation.

A second problem arises when one tries to identify an effective leader whose traits one would like to measure. One has to determine who is an ineffective leader in order to locate the effective leader. Of course the same problems would arise if an attempt was made to identify the traits of leaders who were considered ineffective, i.e., traits of leadership identified as ineffective, may be very effective under different circumstances. A military leader may be considered to exhibit ineffective leadership traits during peacetime when undertaking to achieve the requisite organizational goals of the

military unit. However, in wartime this same leader may have the ability to lead his troops to victory in battle where others might have failed.

Another approach in identifying an effective leader, is to measure the distinction in personality traits between leaders and followers. The idea behind this process is that if a person is in a position of leadership, he must have greater leadership characteristics than the average person. Jago makes a convincing argument that this is fallacious.

First, measurable distinctions between leaders and followers may say more about an inappropriate selection process employed to choose managers than about leadership itself. If, for example, intelligence is one factor considered in the decision to promote an employee to a managerial position, differences in levels of intelligence between managers and subordinates would be expected even if intelligence bears no relationship to the ability to lead. The apparent relationship between intelligence and leadership could merely be an artifact of an inappropriate and invalid promotion process. Second, a simple comparison of leaders and followers does not necessarily imply that the leadership "trait" preceded selection to the leadership role. Occupying a position of leadership may, for example, have the effect of increasing one's self confidence, an effect which might be expected regardless of who assumes the position. If this were the case, the relationship between leadership and self confidence would be spurious, each variable being affected in a similar manner by a third variable (i.e., promotion to the position) [Ref. 4: p.318].

A third problem arises in the testing for leadership traits. When a leadership trait is tested for, the underlying assumption is that this single trait is determinant of a person's leadership effectiveness to some degree. However, Stogdill writes that, "Traits do not operate singly, but in combination, to influence followers" [Ref. 5: p.4]. Therefore, researchers would have to identify which groupings of traits lead to leadership effectiveness. Simple mathematical reasoning would show that a countable infinity of possible trait combinations would have to be considered.

Trait theory, although useful, does not appear to provide a sound basis for determining the leadership effectiveness of officers and enlisted personnel in the Naval Telecommunications System (NTS). Although it can be reasonably postulated that persons in leadership positions in general have more in common in terms of character traits than those not in leadership positions, we can not be sure what are the significant traits for that particular situation and environment.

C. BEHAVIORAL THEORY

1. Description

Behavioral leadership theory grew out of a dissatisfaction with trait theory. The dissatisfaction arose because it was felt that a leader's effectiveness in the organization was a function of his *behavior* rather than a set of traits. The internal predispositions

of a leader resulting from his personality traits are not necessarily linked to observable behavior. For example, an individual may refrain from sexual harassment because he is legally bound to do so. However, this behavior does not mean that he does not desire to engage in such activities. Behaviorist theoreticians argued that leadership was an observable process rather than a set of traits. The observable process (leadership style) would be one in which the leader interacted with followers so that behaviors could be recorded and analyzed. This method of observation presumably would distinguish effective leaders from ineffective leaders.

Behavioral research focuses on two related questions. They are as follows:

- a. How can differences in leader behavior be categorized?
- b. Which leadership behavior is optimal?

The results of research into the first question led to the emergence of two distinct factors that were thought to determine the underlying basis of leader behavior. This research is referred to collectively as the Ohio State Studies. The two factors that emerged are called *consideration* and *initiating structure*. These factors were discovered via factor analysis of the Leader Behavior Description Questionnaire data obtained from a study commissioned by the International Harvester Company and from U.S. Air Force data [Ref. 6: p.104]. The following excerpt from Jago aptly defines the Ohio State findings:

The first factor, labeled consideration, involves the degree of two-way communication and consultation, mutual trust, respect, and warmth a leader exhibits toward his followers. A leader would receive a high score on consideration if his subordinates would agree with descriptions such as "He makes those feel at ease when talking to them," "He is friendly and approachable," "He looks out for the personal welfare of group members," "He puts suggestions into operation," On the other hand a leader would receive a low score on consideration if his subordinates disagreed with these descriptions.

The second factor, labeled initiating structure, involves the degree to which the leader defines and organizes relationships among group members and establishes well-defined channels of communication and methods of accomplishing the group task. A leader would receive a high score on initiating structure if his subordinates would agree with descriptions such as "He assigns people to particular tasks," "He schedules the work to be done," "He asks that group members follow standard rules and regulations," "He emphasizes deadlines." On the other hand, a leader would receive a low score on initiating structure if his subordinates disagreed with these descriptions. [Ref. 4: p.319]

To answer the question concerned with the optimal leadership behavior, researchers attempted to identify the balancing point between consideration and initiating structure a leader should exhibit that would lead to the desired organizational outcomes.

The International Harvester data results show that in production divisions superiors give higher ratings to supervisors who stress initiating structure over consideration. In service divisions, supervisors get the best ratings from their superiors if they stress consideration versus initiating structure [Ref. 7: p.95].¹ Generally, the research showed that leaders who rated high in both consideration and initiating structure were the most successful in obtaining desired organizational outcomes such as effectiveness, satisfaction and cohesiveness [Ref. 6: p.115]. Figure 1 replicated from [Ref. 8: p.13-10] summarizes these outcomes and their relationship to leader behavior.

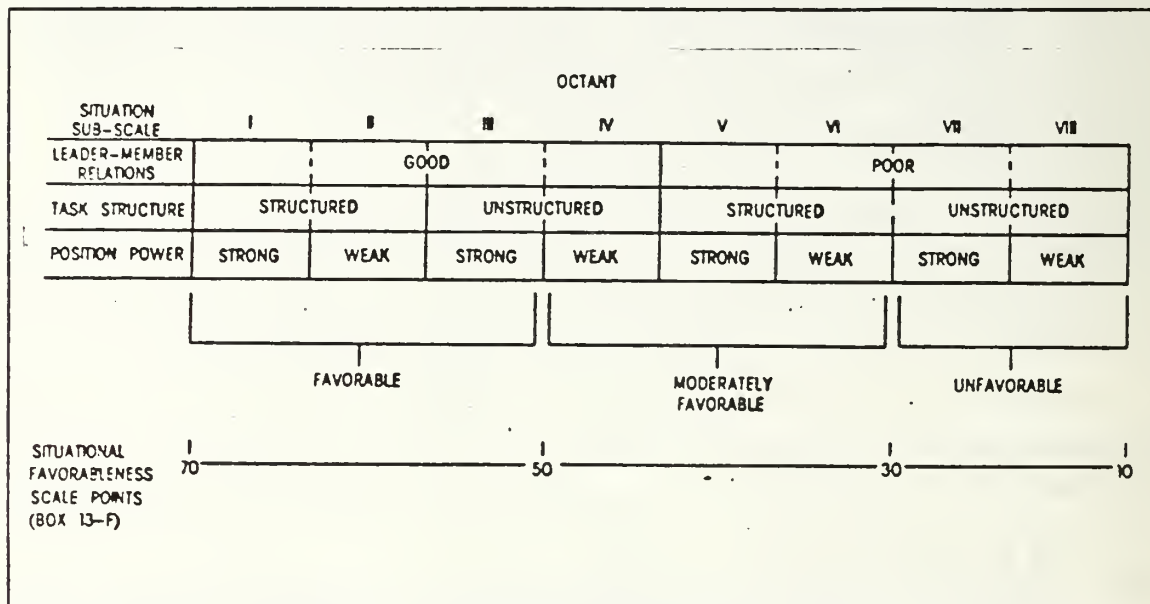


Figure 1. Leader Behaviors and Organizational Outcomes

2. Critique

The primary importance of the leader behavior studies completed by the Ohio State group with respect to consideration and initiating structure, pertains to follower response to leader behaviors. That is, a given set of followers do not necessarily respond to the initiating structure and consideration behaviors of their leader in the same manner in all situations. In the data from the U.S. Air Force study mentioned above, it was found that in a training environment, followers respond more favorably to leaders that exhibit low initiating structure. But in combat situations, followers preferred leaders whose behavior exhibits high initiating structure [Ref. 8: p.13-10]. This change in fol-

¹ Communication facilities of the NTS could by analogy, be considered a service division as they are providing a service to the fleet.

lower choice of leader behaviors can be explained by the following maxim, which is a widely accepted belief among theorists. "... a leader will be accepted by group members to the extent that he helps them to achieve their goals" [Ref. 9: p.47]. Acceptance here implies effectiveness, and in a combat environment this equates to keeping your subordinates alive while accomplishing the assigned mission. Presumably, a leader high in initiating structure would be more successful in achieving this goal.

The validity of the behavioral factors of consideration and initiating structure can be seriously questioned when the view of Halpin [Ref. 10: p.352] is taken. He says that the initiating structure factor defines the organizational relationship between leader and follower and simply represents the basic function of leadership; the consideration factor represents one means to carry out this function. In other words, initiating structure is not so much a behavior as it is an extension of organizational structure. Therefore, it might be more appropriate to only measure a leader's consideration factor as a behavioral factor but equate the initiating structure factor to explanatory situational variables.

Another point that illustrates the importance of the situation in determining leader behavior, is how the size of an organization can affect the preference of followers. In a very large organization, subordinates may prefer greater emphasis on initiating structure than consideration in a leader [Ref. 9: p.47]. The conjecture here is that in an organization of immense size, followers would probably prefer a leader that could effect change for them. As such, these followers would have less concern about approachability to upper management and more concern for meeting goals or deadlines that could equate to bonuses, advancement or recognition. This suggests that the degree of consideration followers prefer in a leader is dependent upon the situational variables confronting the organization or group.

The crux of the matter, when using the behavioral approach to study organizational attributes such as leadership, is summarized in the following question: do followers in the organization respond to leader behavior or is the case actually one of the leader responding to demands made upon him by organizational responsibilities such as goals, deadlines, and mission completion?² The answer seems to be some of both. Behavioral theory however, focuses on leader behaviors but neglects the influence that followers have upon the leaders. For these reasons it does not appear that behavioral theory alone nor in combination with the trait theory discussed above, will provide the

² Organizational responsibilities are situational variables.

entire framework needed for understanding leadership. The failing arises in that behavioral theory shows that one cannot be sure which perspective to analyze a leader's behavior from. That is to say, from the perspective of the leader's superiors or the leader's subordinates. Halpin [Ref. 10: p.353] reports that the leadership behavior description questionnaire data on consideration and initiating structure when correlated with a superior's ratings and follower satisfaction, reveal that superiors and subordinates evaluate oppositely the contribution of the consideration and initiating structure factors when scoring a leader's leadership effectiveness.³ What should the source of evaluation be, the leader's superior or the subordinate of the leader? Although the behavioral theory is significant in pointing out the dilemma of leadership, it cannot be usefully applied in determining the leadership effectiveness of an officer or enlisted person in a position of leadership because the studies say more about the preferences of the leader's superiors and subordinates than about the cognitive complexity needed for information processing or the capability to abstract.

D. SITUATIONAL THEORY

1. Description

The trait and behavioral theories of leadership discussed above led researchers to conclude that situational contingencies do impact upon a leader's actions. These efforts suggest that a leader's performance and behavior vary with the situation. The work in identifying and specifying the exact situational contingencies became known as the *situational or contingency* theory of leadership.

Situational leadership studies have built on the work completed previously in the trait research and behavioral research areas. Situational research took two separate paths. One path emphasized leadership effectiveness in terms of leader traits. The other path of study emphasized leadership effectiveness in terms of leader behavior.

2. Contingency Theory and the Trait Emphasis

The predominance of situational research in terms of trait emphasis is represented by the Contingency Model of Leadership Effectiveness developed by Fielder [Ref. 4: p.322]. The Contingency Model accounts for both the personality of the leader and the favorableness of the situation the leader finds himself in and which impacts his behavior. In reference to his Contingency Model, Fielder writes that,

³ This rating variance is indicative of the fact that managers as leaders are confronted with the conflicting role functions of 'pleasing the boss' and 'taking care of your people' which is a dilemma for the manager.

The theory holds that the effectiveness of a task group or of an organization depends on two main factors: the personality of the leader and the degree to which the situation gives the leader power, control and influence over the situation or, conversely, the degree to which the situation confronts the leader with uncertainty. [Ref. 11: p.65]

a. Leader Personality

The first factor, leader personality (characteristics of the leader), is descriptive of two simplified leader types: the *relationship motivated* leader and the *task motivated* leader. The Contingency Model is displayed in Figure 2.

		Decreasing Situational Favorableness →							
Elements of Situation	Leader-Member Relations	Good				Poor			
	Task Structure	High		Low		High		Low	
	Position Power	Strong	Weak	Strong	Weak	Strong	Weak	Strong	Weak
Characteristics of Leader	Relationship- Oriented (High LPC)	Mismatch	Mismatch	Mismatch	Match	Match	?	?	Mismatch
	Task-Oriented (Low LPC)	Match	Match	Match	Mismatch	Mismatch	?	?	Match

Figure 2. Fielder's Contingency Model of Leadership Effectiveness

The relationship motivated leader is primarily concerned with fostering good interpersonal relationships among coworkers. For instance, under work conditions wrought with anxiety and uncertainty, the relationship motivated leader seeks out support from others and tries make sure that worker needs are secured. That is, this leader uses as many resources available to him to see that he protects the people working for him and simultaneously meet the organizationally set criteria of production. Such anxiety provoking situations are worker layoffs, poor corporate earnings or new production procedures for example. When the work environment is low in anxiety and there is little uncertainty, this same leader seeks other sources as a personal satisfier. In the uncertain environment, closeness to his subordinates was the satisfier. However, in the stable environment where subordinates are not in need of a protector, the relationship oriented leader seeks praise and admiration from peers and others for his day to day leadership efforts.

The task motivated leader has, as major goal, the accomplishment of an assigned task and derives satisfaction from completing the task and knowing he has done well. In a situation where uncertainty is high, the task motivated leader concentrates on task completion over subordinate happiness or well being. Only when the environment exists where the task motivated leader has control of situational variables and uncertainty is low, will he treat subordinates in way as to satisfy their needs or build more camaraderie between himself and his subordinates.⁴

These leader personality factors clearly demonstrate that both the relationship oriented leader and the task motivated leader can show amiable and considerate behaviors toward their subordinates but that the situational context in which these behaviors will manifest themselves differ.

The reader can see how the relationship motivation and task motivation of leaders are scored on the Least Preferred Coworker Scale (LPC) by referring to Figure 3 on page 11.

A high LPC score indicates a passive or considerate leadership style; i.e., relationship oriented. A leader being tested for his leader personality type is asked to think of the one person he can work with least well and then describe this person by ranking him on a 8 point scale with 1 being the most negative response. A low LPC score is indicative of a structuring type or task motivated leadership style. An inherent assumption is that although the rankings refer to the coworker, the description is really about the leader himself doing the ranking.

b. Situational Favorableness

The second factor of relevance in Fielder's model is the *situational favorableness* of the leadership situation. The situational favorableness factor shows to what extent the situation provides the leader with control of his environment. The situational favorableness factor is defined in terms of three dimensions. They are:

1. **Leader-Member Relations**--the degree to which followers support and trust leader decisions and guidance.
2. **Task Structure**--the degree to which job requirements are clearly stated and programmed, the multiplicity of ways jobs can be completed, the amount of worker feedback that exists and the degree to which an optimal outcome is possible.

⁴ Note that the distinction between relationship motivated leadership and task motivated leadership is similar to the distinction made in the description of initiating structure behavior and consideration behavior described earlier. It should be kept in mind however that consideration and initiating structure refer to leader behavior, while relationship motivations and task motivations refer to leader traits.

Pleasant	8	7	6	5	4	3	2	1	Unpleasant
Friendly	8	7	6	5	4	3	2	1	Unfriendly
Rejecting	1	2	3	4	5	6	7	8	Accepting
Tense	1	2	3	4	5	6	7	8	Relaxed
Distant	1	2	3	4	5	6	7	8	Close
Cold	1	2	3	4	5	6	7	8	Warm
Supportive	8	7	6	5	4	3	2	1	Hostile
Boring	1	2	3	4	5	6	7	8	Interesting
Quarrelsome	1	2	3	4	5	6	7	8	Harmonious
Gloomy	1	2	3	4	5	6	7	8	Cheerful
Open	8	7	6	5	4	3	2	1	Guarded
Backbiting	1	2	3	4	5	6	7	8	Loyal
Untrustworthy	1	2	3	4	5	6	7	8	Trustworthy
Considerate	8	7	6	5	4	3	2	1	Inconsiderate
Nasty	1	2	3	4	5	6	7	8	Nice
Agreeable	8	7	6	5	4	3	2	1	Disagreeable
Insincere	1	2	3	4	5	6	7	8	Sincere
Kind	8	7	6	5	4	3	2	1	Unkind
									TOTAL

Figure 3. Least Preferred Co-worker Scale

3. Position Power--the amount of authority the leader holds to control group members in terms of rewards, punishments, evaluations and obtaining compliance.

While the LPC scale enables us to determine whether a leader is relationship motivated or task motivated, Fieldler also shows how effective each leader type will be under different degrees of situational favorableness. Each of the three dimensions of situational favorableness is broken down into 8 cells that suggest either a favorable or unfavorable situation. Figure 4 on page 12 depicts Fieldler's relationship motivated and task motivated leaders in the different situational favorableness conditions.

This figure shows that low LPC leaders which are the task motivated leaders, perform best under favorable conditions where they have a high degree of situational favorableness. The high LPC leaders which are the relationship motivated leaders per-

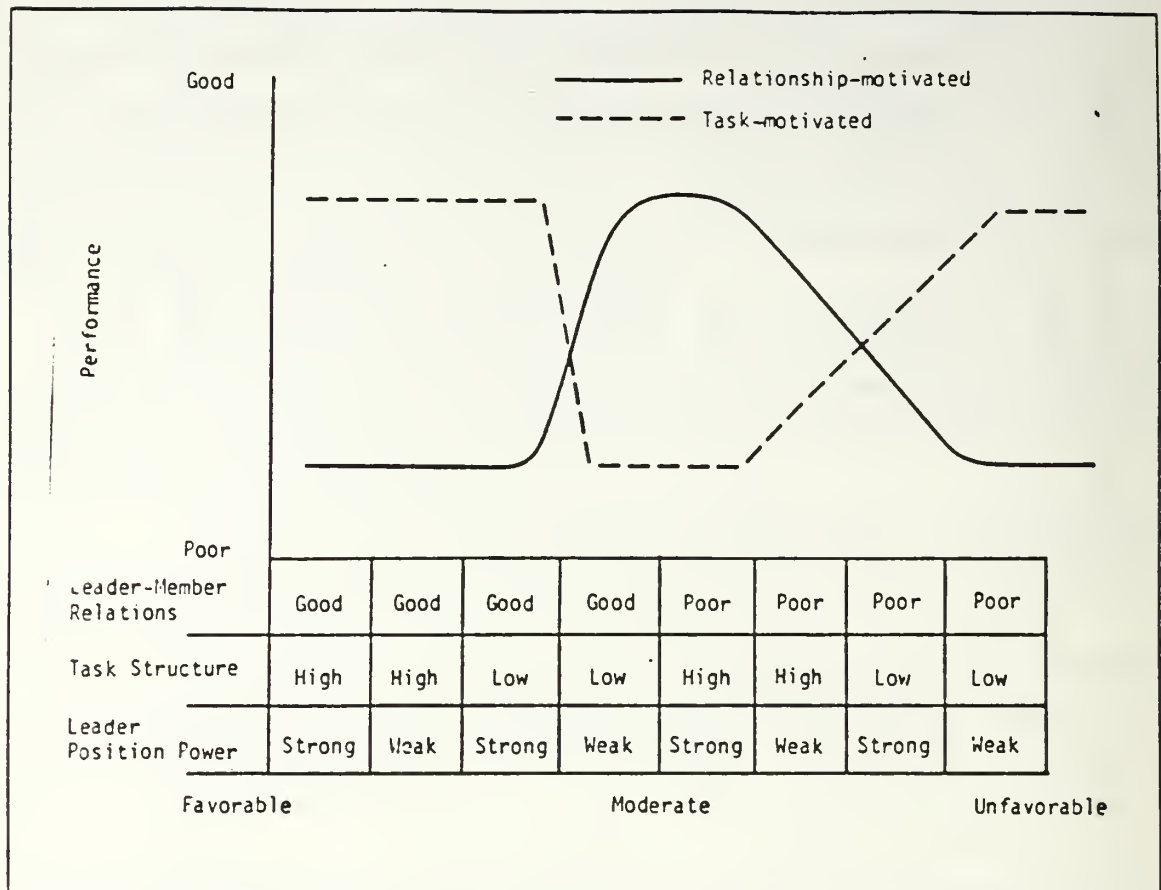


Figure 4. Relative Effectiveness of High and Low LPC Leaders

form best when they have a relatively moderate to unfavorable degree of situational favorableness.

The most important implication to be drawn from Fielder's model is that a leader's performance is dependent upon both the characteristics of the leader and the variability of the situation. A leader who is considerate, pleasant, friendly, accepting, relaxed, close, supportive, interesting, harmonious, cheerful, open, loyal, trustworthy, nice, agreeable, sincere and kind will perform extremely well under unfavorable conditions while the opposite appears to be true of a leader with traits antithetical to those just listed.

3. Situational Theory and the Behavioral Emphasis

The behavioral emphasis in situational leadership theory is best described by the *Path-Goal* theory and the *Vroom-Yetton Model* of leadership.

a. Path-Goal Theory

The Path-Goal theory of leadership postulates that leaders are effective because they can in a productive way, change subordinate behavior in order to arrive at some organizationally desired outcome.

The theory is called Path-Goal because its major concern is how the leader influences the subordinates' perceptions of their work goals, personal goals and paths to goal attainment. The theory suggests that a leader's behavior is motivating or satisfying to the degree that the behavior increases subordinate goal attainment and clarifies paths to these goals. [Ref. 12: p.81]

The original conception of Path-Goal theory was to attempt to explain how the nature of the group's task, in combination with the leader's use of consideration and initiating structure, affects the group's satisfaction and performance. The original hypothesis was that the leader's use of an initiating structure type of behavior would most likely show subordinates the best path to realize successful productivity. The current version calls for leader's to direct, advise and dispense rewards to subordinates as a way to provide subordinates with a sense of satisfaction and to sustain performance. The receiving of rewards would be contingent on effective subordinate performance. As such the current Path Goal focus is to find ways for the leader to make clear to followers which paths lead to desired goals and also which goals are the most desirable. [Ref. 13: p.444]

In research tests dealing with the Path-Goal theory, House found that in the case of subordinates who were more autonomous than other subordinates, an initiating structure type of behavior was correlated with increased satisfaction of subordinates but did not correlate with increased performance of subordinates. But when the difficulty of a task diminished, a higher correlation developed between leader's use of consideration and the satisfaction and performance of subordinates. [Ref. 13: p.445] Presumably, subordinates need less guidance when the difficulty of the task decreases and so do not appreciate direction where it is not needed. This point is clarified in the following statement:

Two important personal characteristics are subordinates' perception of their own ability and relevant experience. The higher the degree of ability and/or relevant experience to the task demands, the less likely are the subordinates to accept a directive leadership style. The environmental variables include factors that are not within the control of subordinates but nonetheless are important to satisfaction or the ability to perform effectively. These include the tasks, the organization's authority system, and the work group itself. Any of these environmental factors can motivate or constrain the subordinates. [Ref. 14: p.425]

In essence, the Path-Goal theory asserts that a leader's behavior is motivating to the extent that it furthers the subordinate's goal of grappling with the uncertainties of his environment. The leader who successfully achieves this is considered a motivator if the subordinate's expectations of achieving some desirable reward is enhanced.

b. The Vroom-Yetton Model

The Vroom-Yetton model takes a narrow focus in trying get at what it is that leads to effective leadership, because the model disregards the numerous dimensions involved in leader-follower intercourse and concentrates solely on one leader provided with a set of followers in decision making situations; decision making being the act that initiates leader and subordinate behavior with the intention of achieving favorable organizational outcomes. The model is a decision tree that is designed to aid leaders in the decision making process. The tree, as shown in Figure 5 on page 16, was assembled with the assumption that no particular style of leader behavior is best. [Ref. 4: p.329] The model implies that leaders must be prepared to exercise their decision making license in a flexible enough manner to adjust to the varying organizational environment one is likely to exist in. Effective decision making relies on:

- Decision Quality--the magnitude of impact a decision has on job performance.
- Decision Acceptance--the degree of acceptance or commitment subordinates have for the decision to ensure compliance.

See Table 1 on page 15 which contains a taxonomy of decision processes the leader has available to him when confronted with a decision making situation.

Each process is represented by a symbol such as A1, C1, G1 etc.. The letters stand for properties of the process. A is autocratic, C is consultive and G is group. The roman numerals signify variations of the process. The decision maker, after stating the problem, works from left to right through the tree by answering yes or no to the following questions:

- A. Does the problem possess a quality requirement?
- B. Do I have sufficient information to make a high quality decision?
- C. Is the problem structured?
- D. Is acceptance of the decision by subordinates important for effective implementation?
- E. If I were to make the decision myself, am I reasonably certain that it would be accepted by my subordinates?

Table 1. LEADER DECISION STYLES

DECISION STYLES		
A1. You solve the problem or make the decision yourself, using information available to you at the time.	A2. You obtain any necessary information from the subordinate, then decide on the solution to the problem yourself. You may or may not tell the subordinate what the problem is in getting the information from him. The role played by your subordinate in making the decision is clearly one of providing specific information that you request, rather than generating or evaluating alternative solutions.	C1. You share the problem with the relevant subordinate, getting ideas and suggestions. Then you make the decision. This decision may or may not reflect your subordinate's influence.
G1. You share the problem with one of your subordinates, and together you analyze the problem and arrive at a mutually satisfactory solution in an atmosphere of free and open exchange of information and ideas. You both contribute to the resolution of the problem, with the relative contribution of each being dependent on knowledge rather than formal authority.	D1. You delegate the problems to one of your subordinates, providing him or her with any relevant information that you possess, but giving him or her responsibility for solving the problem alone. Any solution that the person reaches will receive your support.	

F. Do subordinates share the organizational goals to be attained in solving the problem?

G. Is conflict among subordinates likely in preferred solutions?

The end of the tree leaves the decision maker with one of the decision styles shown in Table 1 from which he can use to attack the problem; i.e., autocratic, consultive or group.

4. Critique

The situationist approach to leadership demonstrates that there is a relationship between a leader's behavior and the specific situation the leader finds himself in. Since most organizational environments are dynamic, leader behavior must change to meet the challenge of maintaining organizational effectiveness. As appealing as this approach is

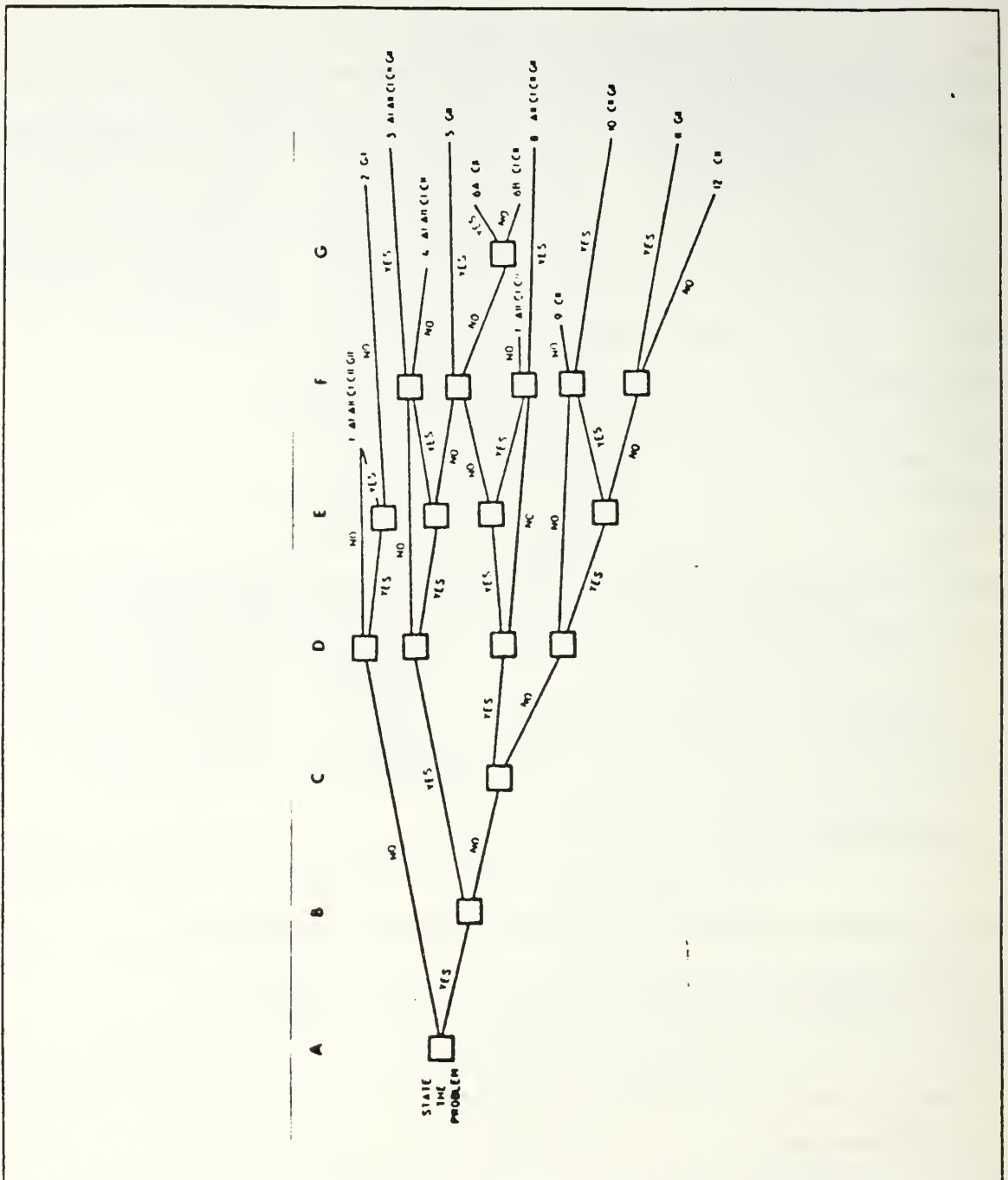


Figure 5. Vroom-Yetton Leadership Model

intuitively, there are problems with each of the theories discussed as situational leadership theories.

Each of the situational theories discussed here have weaknesses. With respect to Fielder's Contingency Model, the three dimensions; leader member relations, task structure and position power have situational characteristics of good or poor, high or low and strong or weak respectively. This seems quite arbitrary. For instance, to categorize position power as strong or weak is a problem because in reality there is often no such clear cut distinction possible. The other problems recognized are:

- The interaction between LPC and situational favorableness is not clear.
- It may be unrealistic to portray leaders as having complete control over situational favorableness dimensions such as task structure. Often the organization has explicit policies and practices which have to be followed. The leader would have very little power to change these.
- The leader who finds his relative effectiveness by rating his least preferred coworker can arrive at the wrong conclusion about himself if he chooses that coworker as least preferred due to exogenous reasons such as personality incompatibility.

The Path-Goal theory fails to account for the reality of two way interaction that occurs between people. The theory predicts that leader behavior affects subordinate performance; however, it could probably be shown that leader behavior and leader performance is altered as a result of changes in subordinate behavior. A plethora of variables such as subordinate experience and ability and the cohesiveness of the group also affect subordinate performance. This is not accounted for in the Path- Goal theory.

As with many such instruments, the decision tree of the Vroom- Yetton model tempts the user into answering the questions posed by the model in ways that appear to be the most socially desirable as opposed to complete truth. For example, the leader may respond in a manner that indicates belief in the use of participative management, when in the reality of daily work, he might utilize autocratic decision making for that particular situation.

5. Conclusion

In this literature review of leadership we have seen that trait theory espouses the idea that leadership effectiveness is dependent upon the leader's traits while the behavioral theories make a plausible case in saying that leadership effectiveness is a function of the leader's behavior as displayed toward subordinates regardless of any traits or real proclivities of the leader. Finally, we have seen that leadership effectiveness is highly dependent upon the situation or on the combination of the situation and the leader's traits or on the combination of the situation and the leader's behavior.

Each of these theories has been very conducive toward increasing our understanding of leadership. However, each theory alone is not particularly useful for our purposes of determining ultimately, who will be our most effective leaders. The trait theories do not account for the situational aspects which are clearly significant. The behavioral theories give more credence to the situational factors but neglect the traits of leaders which must in some way blend into the leadership formula. The situational approach seems to be useful for training leaders in organizations to become more effective but this approach does not help in *identifying* those leaders who are effective.

What is needed is a theory that takes into account leadership traits, leader behaviors and situations that leaders find themselves in, all as part of a formula to determine who the effective leaders are. Jago, in defining leadership, expresses this succinctly:

Leadership is both a process and a property. The process of leadership is the use of noncoercive influence to direct and coordinate the activities of the members of an organized group toward the accomplishment of group objectives. As a property, leadership is the set of qualities or characteristics attributed to those that are perceived to successfully employ such influence. [Ref. 4: p.315]

a. The Developmental Leadership Theory

A theory of leadership that takes such a holistic view by accounting for traits, behaviors and situational contingencies is the *Developmental Theory of Leadership*. As a very modest test of developmental leadership theory, this thesis will test the hypothesis; leaders at higher stages of ego development are more effective leaders. Prior to this, the next chapter explains in very general terms what Developmental Theory is from the perspective of ego development.

III. DEVELOPMENTAL THEORY

A. INTRODUCTION

The previous chapter discussed in detail, the major leadership theories. These theories were trait theory, behavioral theory and contingency theory. Although all of these theories have significantly contributed to the knowledge of organizational leadership and to the knowledge of how leaders can be more effective in their work environment, we are not able to utilize these theories in toto. That is, we are not able with the above named theories, to discern leadership effectiveness of a person in a leadership position.

Recall that the trait theory proposed that effective leadership resulted if a person in a position of leadership had personality traits similar to those of other persons who had proved themselves as effective leaders. A major difficulty with this theory was that no one could be sure what those leadership traits were that made one an effective leader. The behavioral theory proposed that irrespective of a leader's personality traits, leadership effectiveness was a function of the leader's behavior. The most serious problem with the behavioral theory was that data obtained about leaders really indicated the preferences of the leader's superiors and subordinates for desired leadership styles rather than evaluate the ability of the leader to effectively achieve the goals of the organization. The contingency theory espoused the idea that the effectiveness of a leader is dependent upon situational contingencies such as the work environment, follower behavior or traits of the leader himself. The problem with contingency theory was that of matching a leader to the work situation in order to achieve the best fit. That is, for a leader to be effective, contingencies such as task-structure, follower characteristics and environmental factors had to have some match with the leader's abilities and behaviors. The problem is that the match, if it could be made, would be short in duration due to the dynamic nature of the work environment for example.

This chapter reviews developmental theory in general and introduces the theory of ego development in particular as an alternative approach to the task of determining which leaders are the most effective.

B. DEVELOPMENTAL THEORY

In a statement sure to be of interest to communicators in the NTS, Torbett, in reference to managers and leaders says:

The contemporary world of the 1980s demands, as never before, managers who can guide teams and organizations through fundamental transformations by becoming clearer about, rather than losing, a guiding dream. At the simplest technological level, product life cycles in the electronic information and communication industries have become drastically foreshortened. Products frequently move from conception to capitalization to introduction to maturity to senescence all within less than five years. Since each of these stages represents a fundamental change in focus and priorities, this fast pace of change virtually eliminates the notion of stable management. A manager either leads the organization through these fundamental changes by equally fundamental changes in his or her own style at the appropriate times, or else he or she does not last. Many managers today do not last. [Ref. 15: p.xiv]

This statement underscores the idea central to this thesis; a leader's ability to lead changes over time and as a result, impacts on his effectiveness for organizational goal attainment (i.e., his leadership effectiveness). This fundamental change that allows a leader to progress in his ability to cope with a changing environment occurs because the leader himself is able to evolve and change. This growth can involve many aspects of the leader's personality such as thought processes, interpersonal relations, impulse control and character.

1. Discussion

This notion that people can and do change in some aspects of their personality belongs to the field of psychology known as *developmental theory*. Merron points out that as human beings grow, their way of relating to the world evolves. He says that many researchers involved in different disciplines within the field of psychology have espoused a common theme with respect to this change in the human personality. Citing evidence of this reoccurring theme in the field of psychology Merron says:

To structural developmental psychologists, not only do people construct meaning, but we evolve through qualitatively different modes of awareness or meaning making in our lifetimes (Kegan, 1982). All structural development theories, be they theories of moral development (Kohlberg, 1969), of ego development (Loevinger, 1976), or of interpersonal development (Selman, 1982), describe discrete steps along the stairway of human development wherein as each step is taken, a new self emerges. [Ref. 16: p.55]

Development, in the context we are interested in, is the internal change that transpires **over time within** an individual that is due to environmental or genetic influences and **concerns one's moral, cognitive, psychological or even physical development**. As a concept, developmental theory can be applied to all behavior [Ref. 17: p.343].

Development is more than just an incremental increase in understanding or an elevated ability to make causal connections. When a transformation occurs from one developmental stage to the next developmental stage, the insight and understanding that

one has about the world around him becomes to be a part of a much broader insight and understanding. Keliërmann says it best when she says,

Development is always a process of outgrowing one system of meaning by integrating it (as a subsystem) into a new system of meaning. What was "the whole" becomes "part" of a new whole [Ref. 18: p.203].

The unconscious components of attitude at one developmental level are the corresponding conscious components at an earlier level. At one stage of development a relationship made with another person may be based solely on the fairness of exchange such as when two children trade sandwiches during lunch break at grade school. That is, the relationship is satisfactory to each party as long as both get equal benefits. At a more advanced developmental stage the relationship may be built on trust between the two individuals. As such, the extrinsic value placed on the gains in such an exchange may be overcome by an even greater intrinsic value such as mutual trust. This shows that the person is now able to consider needs other than his own and moreover, can move back and forth in his internal thoughts from one point of view to another, i.e., the desire for fair exchange and trust. Again, what was "the whole" has become "part" of the new whole. [Ref. 18: p.203]

Persons at different developmental stages do not always interpret events in the same manner. Two people may see and hear the same event, but the meaning that each attaches to the event will not necessarily be the same.

2. Assumptions of Developmental Theory

The following list of assumptions summarizes the concepts that most developmental theory is based upon, whether they are from the cognitive, moral or interpersonal fields of study. These assumptions are:

- The developmental process incorporates a series of fundamental transformations wherein the succeeding stage is characteristically different from the previous stage.
- There is a definite sequence to this series of transformations.
- The transformation sequence is irreversible so that a person can not regress to a lesser stage. The progression is hierarchical and gradual.
- There is no guarantee that a person will continue to proceed upward in the developmental sequence. In other words, evolution through the stages can terminate at any point.
- The structure or logic of persons at higher developmental stages is interpreted by persons at lower developmental stages in terms of their less advanced stage. The logic of persons at lower developmental stages is comprehensible to persons at higher stages because their stage of development subsumes all of the lower developmental stages.

- The stage to stage developmental process is caused by an interaction between the person and his environment. [Ref. 15: pp.226-227, Ref. 19: p.11]

C. EGO DEVELOPMENT

This revolutionary view of human psychosocial development as it is applied to the ego is called *ego development*. In order to understand ego development, one must first understand what the *ego* is.

1. Description of Ego

Ego, in terms of this leadership study, is defined as that conscious component of a leader's personality that controls his actions and which is in touch with external reality to the greatest degree [Ref. 20: p.417]. Ego is a term that describes our individuality, our opinion about ourselves, and our way of problem solving. What we perceive and understand is a result of the ego. The ego is a meaning system and as such provides a frame of reference which allows us to make order out of the disorder that circumscribes the world. It is not our intellectual capacity solely but, allegorically speaking, is the gate keeper who decides who to let in and who to keep out. The ego gives our experiences meaning, organizes our thinking and guides our feelings and actions in all of our endeavors. The following statement is supportive of this description of the ego:

Each person focuses on certain features of the environment, actively avoids some, and interprets others idiosyncratically, in ways that are congruent with his own internal rules, views, and prejudices [Ref. 19: p.36].

2. Description of Ego Development

The term ego development is one domain in a broad range of psychologically related areas of interest such as cognitive development, character development, moral development and social development. Ego development refers to the course of character development within the individual. Ego development has also been used in the past to refer to the greater capacity modern man has for ego development vis-a'-vis his ancestor's capacity for ego development. According to Loevinger, the influence of Jean Piaget has been the **most profound**, especially in terms of cognitive development theory and the concept of **structuralism** in which ego development theory is grounded [Ref. 21: p.34]. **Structuralism** is a construct that suggests that character development is a transformation of structures over time that enhances the ability of an individual to cope with his environment.

Ego development is not a mechanistic process of learning from the environment like a tape recorder records sounds, rather it is a process carried out by the ego in an

Table 2. STAGES OF EGO DEVELOPMENT

<i>CODE</i>	<i>IMPULSE CONTROL</i>	<i>INTERPERSONAL STYLE</i>	<i>CONSCIOUS PREOCCUPATIONS</i>	<i>COGNITIVE STYLE</i>
		Autistic		
<i>I-1</i>		Symbiotic	Self vs. non-self	
<i>I-2</i>	Impulsive, fear of retaliation	Receiving, dependent, exploitive	Bodily feelings, especially sexual and aggressive	Stereotyping, conceptual confusion
<i>D</i>	Fear of being caught, externalizing blame, opportunistic	Wary, manipulative, exploitive	Self-protection, trouble, wishes, things, advantage, control	
<i>I-3</i>	Conformity to external rules, shame, guilt for breaking rules	Belonging, superficial niceness	Appearance, social acceptability, banal feelings, behavior	Conceptual simplicity, stereotypes, cliches
<i>I-3/4</i>	Differentiation of norms, goals	Aware of self in relation to group, helping	Adjustment, problems, reasons, opportunities	Multiplicity
<i>I-4</i>	Self-evaluated standards, self-criticism, guilt for consequences, long term goals and ideals	Intensive, responsible, mutual, concern for communication	Differentiated feelings, motives for behavior, self respect, achievements, traits, expression	Conceptual complexity, idea of patterning

active selection and interpretation of its environment. The ego in so doing defines to itself what the environment signifies. In its development, the ego makes connections that appear natural and pleasing to itself. Ego development, as it pertains to the individual and as a theory, is verifiable through tests and is applicable to all age groups. Ego development while being a process descriptive of an evolving and maturing state of being is also major dimension with respect to differences in people.

Table 3. STAGES OF EGO DEVELOPMENT, CONT.

<i>CODE</i>	<i>IMPULSE CONTROL</i>	<i>INTERPERSONAL STYLE</i>	<i>CONSCIOUS PREOCCUPATIONS</i>	<i>COGNITIVE STYLE</i>
<i>I-4/5</i>	* Respect for individuality	* Dependence as an emotional problem	* Development, social problems, differentiation of inner life from outer	* Distinction of process and outcome
<i>I-5</i>	* Coping with conflicting inner needs, toleration	* Respect for autonomy, interdependence	Vividly conveyed feelings, integration of physiological and psychological, psychological causation of behavior, role conception, self-fulfillment, self in social context	Increased conceptual complexity, complex patterns, toleration for ambiguity, broad scope, objectivity
<i>I-6</i>	* Reconciling inner conflicts, renunciation of unattainable	* Cherishing of individuality	* Identity	
* means in addition to the description applying to the previous level.				

a. Structure and Stages

The ego as just described, is able to change over time. In accordance with developmental theory, ego development is a stage by stage process. Each ego stage consists of a structure which determines the degree to which the environment will affect its current state. While the environment determines the nature of the change that will eventuate, structure determines the range of possibilities within which change occurs. The structural changes that occur are stimulated by the interaction of the person with his environment [Ref. 21: p.39].

3. Loevinger's Stages of Ego Development

Thus far, developmental theory in general and ego development in particular have been presented with reference to *stages of development*. Loevinger's version of the ego development process is the basis for the hypothesis test to be carried out in Chapter

V which may aid in determining the leadership effectiveness of leaders. In view of this, Loevinger's stages of ego development are discussed.

Each ego stage encompasses four facets of ego structure. These facets are:

- Impulse Control and Character Development
- Interpersonal Style
- Conscious Preoccupations
- Cognitive Style

These four facets of ego structure are attributes that describe the broadness and complexity of the ego. Impulse Control describes emotional feelings one has as a reaction to the environment such as fear and shame. In the process of development these impulses become part of the character. Interpersonal style defines the way a person relates to other people. Conscious preoccupations are the person's bodily interests such as the need for safety. Cognitive style refers to the way a person handles information such as organizing. The reader should refer to Table 2 on page 23 for a summary of the primary and secondary transition stages of the Loevinger model.

a. Description of Stages

The Loevinger model of ego development contains ten stages and levels of development. These are the following:

1. Presocial Stage
2. Symbiotic Stage (I-1)
3. Impulsive Stage (I-2)
4. Self-Protective Stage (D)
5. Conformist Stage (I-3)
6. Conscientious-Conformist Level (I-3/4)
7. Conscientious Stage (I-4)
8. Individualistic Level (I-4/5)
9. Autonomous Stage (I-5)
10. Integrated Stage (I-6)

(1) *Presocial Stage.* The presocial stage describes a stage where the child has not yet formed an ego. The child's main task at this point is to differentiate himself from his surroundings. He is constructing his reality by the recognition that the world is composed of objects. Autistic children are those that have remained too long at this stage. [Ref. 19: p.15]

(2) *Symbiotic Stage.* The symbiotic stage is characterized by the child who has made significant advances in judging what is self and what is non-self. The child still remains in a state of symbiosis with the mother, i.e., a oneness. At this stage language plays an important part in his emerging sense of being. [Ref. 19: p.16]

(3) *Impulsive Stage.* In the impulsive stage the child is now able to assert his individual and separate identity. Other people and objects are given value as a function of their worth to the child. Bodily impulses, such as sexual and aggressive impulses, appropriate to the particular child's age, are the main fixation. The world is dichotomized into good or bad, clean or dirty and nice or mean. Initially the impulses are repressed by constraints and then later by rewards and punishment. The child's orientation at this stage is to the present while the past and future are usually excluded. A child who remains at this stage too long is seen as uncontrollable. This child is liable to run away from home as he sees his problems located at a place rather than a situation or in himself. [Ref. 21: p.16]

(4) *Self-Protective Stage.* The self-protective stage has been achieved when the person has gained the ability to contemplate immediate short-term rewards and punishments. This ability is the initiation of impulse control. Rules are understood and are used by the person for his satisfaction or advantage. The main rule is "Don't get caught". This is a step forward from the child at the previous stage wherein constraints were necessary to control behavior. Blame is externalized to others or other things. If a child or adult remains at this stage too long he may become opportunistic and deceptive. The good life is seen as a life without work but rather filled with unearned worldly goods. [Ref. 21: p.16]

(5) *Conformist Stage.* The conformist stage has occurred when the person identifies with a group. For a young child, this group is the family and a peer group for the older child. The forging of trust between the person and others within the group is the key ingredient that initiates the perception by the person that his welfare is tied to the welfare of the group. Group membership offers security but the rejection of other groups is likely. Obedience of rules is motivated because the group says so and not because punishment will result. Right and wrong is seen in terms of obeying or breaking the rules and not whether the rules themselves are morally grounded. The Conformist does not tolerate individuals who are different from the group, different defined by easily identifiable traits such as sex, color and age for example. The Conformist's views about others are not complex; therefore, few possibilities or deviations are considered with re-

spect to acceptable behavior or appearance. The Conformist is concerned with appearances, social acceptance, reputation and material goods. [Ref. 21: p.17]

(6) *Conscientious-Conformist Level.* The conscientious-conformist level appears to be the developmental stage of most adults in society. This stage is really a transitional level between the Conformist Stage and the Conscientious Stage but is a stable position in the developmental sequence. This level is differentiated from the Conformist Stage by the addition of an increase in self-awareness and the ability to detect multiple potentialities in various circumstances. Conscientiousness of oneself transmutes group standards of conduct and appearance. No longer does the person see one solution to a complex problem as acceptable for all individuals or groups, rather alternatives are seen and exceptions allowed. [Ref. 21: p.19]

(7) *Conscientious Stage.* The conscientious stage is characterized by the initial surfacing of the major elements of an adult conscience. These elements are long term self-evaluated goals, ideals and a sense of responsibility. While a person at the Impulsive Stage labels objects and people as good or bad, he does not do this from a moral ground, but rather as to what is in his advantage or his disadvantage. The notion of blame is to be found at the Self Protective Stage but the blame is not directed toward the self, it is directed outward to things or objects. That is why the person at the Self Protective Stage is not thought as having a conscience. The Conformist can have guilt feelings but these are due to fact that he broke rules and not because what he did was right or wrong. The person at the Conscientious Stage does not see rules as absolutes, but rather he will choose to obey rules that would otherwise break his own moral code. The Conscientious person sees work in terms of rights and privileges and not as drudgery. He measures achievement by standards that are satisfying to himself and is not necessarily concerned with recognition and aplomb that lower levels seek as a work motivator. The Conscientious person's character contains a conceptual complexity that contemplates polarities such as dependent versus independent, trivial versus important and inner life versus outward appearances. This view to the inner life allows the Conscientious person to view behavior in terms of patterns and to understand the viewpoint of others in taking their actions. The Conscientious person sees and interprets behavior and events in a broader social context than the individual at lower developmental stages. [Ref. 21: p.20]

(8) *Individualistic Level.* The individualistic level is the transition phase between the Conscientious Stage and the Autonomous stage. The Individualistic Stage

is characteristic of a person who has attained a heightened state of uniqueness and a concern for emotional trust and dependence with others. The Individualistic person realizes that dependency and independence is not a mere practicality but has emotional connotations such as remaining emotionally dependent upon someone without any physical or financial incentives to do so. The Individualistic personality has greater respect for others than any of the previous stages. This respect is based upon the recognition that all people are unique and deserve to have individual differences and variegates of circumstance taken into account when making decisions. The facility to tolerate ambiguity, inconsistency and paradox demonstrates the ability to discriminate between reality and appearances and between means and ends. [Ref. 21: p.22]

(9) *Autonomous Stage.* The autonomous stage person is distinct from the previous stages as he has a well-defined capacity to recognize and cope with the inner struggle of needs, duties and needs versus duties. The Autonomous person does not have more inner conflicts than the previous stage personalities; instead, he has the internal fortitude to face problems directly and not ignore them. The world still contains polarities, but the Autonomous person has the conceptual complexity to discern reality as multifarious and multifaceted and as such he can tolerate a high degree of ambiguity. The Autonomous personality recognizes the need to let others learn through their failures even though he would rather protect them from such mistakes if he thought it preferable. The Autonomous person holds up his friends and family as his most valuable possession. The Autonomous person recognizes that past experience is a superb guide to life and realizes that his motives and the motives of others are driven by the experiences of the past, unlike the Conscientious person who only understands that others have motives period. The realization that the past impacts the future invites the Autonomous person to seek self-fulfillment as a goal. This goal of autonomy warrants less desire to be guided by superiors. The Autonomous person espouses broad socially abstract ideas such as equity or fairness. [Ref. 21: p.23]

(10) *Integrated Stage.* The person at the integrated stage is at the highest known level of ego development although there are indications that there may be a very few persons at one or two levels higher still. For example, those individuals who are charismatic or who utilize the left brain and right brain cognitive powers of reasoning and abstraction might be found at this level. The Integrated personality has been hard to test for as the evaluators themselves must be at this level themselves in order to comprehend the character. Generally, the description of the Autonomous Stage per-

sonality holds for this level of development. The Integrated person can best be characterized as one who strives to make maximum use of his abilities, skills and potential. [Ref. 21: p.26]

D. CRITIQUE

Developmental theory is not without its detractors. Zigler reduces developmental theory to a construct caught up in an endeavor that endures a mode of reasoning that is abstract or speculative such as metaphysical philosophy. The following summary of his criticism is provided to offer a balanced perspective on the developmental theory established thus far:

- Developmental theories are over reliant on natural observation and use inadequate experimental method.
- The claim by developmental theorists that individual behavior changes as function of time, is perplexing as well as problematic. It is incorrect to declare that a given behavior is a function of one minute, one year or one decade.
- Considering the above statements, developmental theory is not really concerned with changes to a group of organismic processes with respect to time, but rather it is the task of making sense out of a transition process. Therefore, developmental theory is really just an arbitrary subdivision of a larger field of psychology, which is concerned with behavior in general as a function of process. It follows that developmental theory is simply a general behavioral theory.
- Learning psychologists would say that what happens to an individual's response after a given number of trials is called learning, but the developmental theory practitioner calls it development.
- Developmental theory concentrates on those stages of life where change is continuous such as infancy, childhood, adolescence and aging. Adulthood is a stable period and as such is not a fertile area for the developmental theorist to study. [Ref. 22: pp.343-356]

The above criticisms apply to developmental theory in general which is a category describing a broad range of sources, theories and data bases. As such, these criticisms may be based on studies in areas of developmental psychology that have not fully matured in their theoretical application to research. Each of Zigler's criticisms do not seem valid as they concern Loevinger's concept of ego development.

First, Loevinger's instrument is not based completely on natural observation. Loevinger's claim is that: "many diverse aspects of thought, interpersonal relations, impulse control and character grow at once, in some more or less coherent way" [Ref. 19: p.ix]. She has attempted to show that the ego also grows in a coherent way as modeled by the stages of ego development and as empirically verified by the sentence completion test. Second, the change in ego stage as a function of time is valid. Selman [Ref. 23:

p.18] argues convincingly that in the field of developmental psychology, time is justifiably used as a tool to check for the functional relations in development. In other words, over time, the coherence of the developmental process can be seen much more clearly than a brief glimpse of the process might provide. Third, developmental theory can be applicable to the study of human behavior, but it is not equivalent to general behavioral theory. The following anecdote aptly portrays how two people exhibiting the same behavior, are acting from two different levels of understanding:

Two brothers share bunk beds, a 5-year-old in the top bunk and a 3-year-old in the bottom bunk. One night, after the lights had been turned off, but before the children had received their usual goodnight kisses from their parents, the older brother suggested to the younger that they quietly switch places before the return of the unsuspecting adults. When the parents returned to the bedroom, they found two giggling bodies chortling somewhat hysterically in anticipation as they hid under their covers; the degree of hysteria was quite satisfactorily increased when each child was incorrectly addressed as the other by the "unknowing" parents.

...it seems clear that the younger boy generally responded with laughter and amusement when persons or things were simply mislabeled.

For the older boy, the crux of the humor lay not in the errors of actual and attributed labels, in the discrepancy between the reality of who was actually lying under which cover and the verbal assignment of incorrect names by the adult participant; the fun for him was in the trickery itself, the social deception. [Ref. 23: pp.15-16]

Selman's anecdote shows that a knowledge of the social understanding which *underlies* behavior can be critical to understanding and dealing with that behavior [Ref. 23: p.16]. Fourth, the structuralist approach to which Loevinger subscribes considers learning as the reordering of the parts into a new whole, which is different from learning something new about the parts. Fifth, ego development theory as explained by Loevinger does not skirt the development of the ego during adulthood. Loevinger's stages of development are applicable to all age groups [Ref. 21: p.14].

E. CONCLUSIONS

Developmental theory has the potential to significantly expand our understanding of leadership effectiveness. In the military context, leadership effectiveness could be defined in developmental terms; e.g., the higher the ego stage the greater the leadership effectiveness. At each successively higher stage of ego development, the Naval leader (officer or enlisted) could have an increased ability to: understand the organizational implications resulting from various patterns of human behavior, communicate goals to followers to enlist their support and establish a vision of the organization which will encourage higher performance. As each new stage of development is reached, the Naval

leader has a greater level of cognitive complexity which enables him to utilize more of the organizational and personnel management experiences he has known for decision making purposes, thus making him a more effective leader.

IV. METHODOLOGY

A. INTRODUCTION

This chapter outlines the methodology that will be used in conducting the research. In specific, the following topics will be discussed: research sample, hypothesis, variables, operationalization of variables and data analysis.

B. RESEARCH

1. The Research Sample

The thesis data were collected at the Naval Communication Station (Navcomsta) in Stockton, California during the month of November, 1987. Fifteen persons were selected at random from the personnel assigned or attached to Navcomsta Stockton with the only qualification being that the person be assigned to some leadership role in the organization. Leadership role was defined to mean a position within the organization where an individual was held to a higher standard of responsibility than the other members of the same division or department. There was no predetermined requirement for any ratio of officer to enlisted personnel or a ratio of male to female personnel. Navcomsta Stockton, in addition to being a geographically convenient research sample, provided this writer with the opportunity to work closely with the personnel of a Navcomsta, and thus provide further education in his master's degree area, Naval telecommunication's operations.

The data provided in Table 4 on page 33 is demographic in nature and provides a clear synopsis of the sample group's characteristics.

The variables of interest are:

- Age
- Sex
- Educational Level
- Hobbies

a. Age

The variable age was included to prevent unfounded inferences as to the association between age and ego stage based upon the outcome of the correlation between rank and ego stage. This is needed because one might tend to explain a higher level of leadership effectiveness as measured by rank in terms of a leader's age.

Table 4. SYNOPSIS OF DEMOGRAPHIC VARIABLES

<i>Subject Code</i>	<i>Age</i>	<i>Sex</i>	<i>Education Level</i>	<i>Hobbies</i>
52829	47	M	AD	A + S
EETDC	31	F	BD	A + V
13357	35	F	MD	S
01707	37	M	HS	A
CAR32	36	M	HS	A + S
00155	29	M	HS	A + S
7323A	41	M	BD	A + M
11380	35	M	HS	S
68679	44	M	HS	M + S
52BRU	43	M	HS	A + S
SHOE	47	M	AD	A
37223	40	M	AD	A + S
MINSY	36	M	AD	S
95670	38	M	BD	A + S
11260	27	F	BD	A + S
<i>M = male, F = female, A = art, M = music, S = sports, V = volunteer work, HS = high school degree, AD = associate's degree, BD = bachelor's degree, MD = master's degree</i>				

Loevinger's stages of ego development describe what persons at a particular developmental stage have in common without regard to their age [Ref. 21: p.14]. In the military, there appears to be an association between rank and age if one isolates commissioned officer ranks from enlisted ranks. No matter how effective a leader is, there is a maximum rate of progress in terms of promotions. For example, some commissioned officers are selected for early promotion but no one has ever encountered a twenty nine year old admiral before; at least not in the modern United States Navy. This association however does not hold up if officers and enlisted persons are considered collectively. An ensign is typically 21 to 23 twenty three years old while a senior chief may be in his middle thirties. Although the ensign outranks the senior chief, it would be difficult to find anyone who would say the ensign was a more effective leader.

b. Sex

Sex is a variable that was essential for rating ego level because men and women are not given identical Sentence Completion Tests (SCT). See the Appendix for the SCT questions for men and for women to see how the questions vary for male and female respondents.

c. Educational Level

A low educational level can be denotative of a low stage of ego development. Loevinger says,

...what is more obvious is that ego level determines whether a young person will stay in school, particularly during the high school years. An opportunist can make it at the secondary or college level, but he is less likely to try than a person at the conformist or higher level, since delay of gratification is necessary for education to take place. [Ref. 21: pp.176-177]

Of course, many intellectually bright individuals that may have a fairly high stage of ego development may not have the financial resources necessary to continue school or circumstances may prevent it, but a high degree of education possibly is indicative of a higher stage of ego development and therefore conceivably a greater degree of leadership effectiveness. So while a low level of education may or may not identify an effective leader, it is expected that more often than not, a college graduate will exhibit greater leadership effectiveness than a high school graduate.

d. Hobbies

It is thought that a person with many varied interests such as art, sports, music and volunteer work would be more likely an effective leader than not because these pursuits may identify the individual as conceptually complex or more interested in self fulfillment. These are attributes descriptive of persons at the higher stages of ego development.

C. TESTING PROTOCOL

1. Set Up

The commanding officer of Navcomsta Stockton arranged the time and location of testing and excused the test subjects from their military responsibilities for the duration of the testing.

2. Procedures

The test protocol was executed as planned. The following list outlines the protocol and procedure used in the collection of data.

- Seat all subjects in testing room.
- Provide each subject a copy of the test instrument along with a demographic data sheet and an instruction sheet.
- Instruct all subjects to write a five place code of their choosing at the place provided at the top of the demographic data sheet in lieu of their own name (the intent of the code was to protect the privacy of the respondent and to prevent rater's from being influenced by any information about the respondent).
- Read aloud the following instructions:
 1. Complete each incomplete statement on the test instrument in any way you wish.
 2. Take whatever amount of time that is necessary to complete the test.
 3. Do not mark your name anywhere on the test instrument.
 4. There are no correct or incorrect ways to complete a sentence.
 5. Your commanding officer or superiors will not be provided with copies of your answers.
- Ask all subjects to commence by completing the demographic data form and then to complete the test instrument.
- Place each subject's completed test in a large envelope without regard for order.

See the Appendix for a facsimile of the instruction sheet.

D. HYPOTHESIS AND VARIABLES

1. Hypothesis

The hypothesis to be tested is that leadership effectiveness is related to ego development; the higher the ego stage the greater the leadership effectiveness.

2. Variables

a. Independent Variable

The stage of a leader's ego development will be treated as the independent variable. Each leader is considered to be at one of the following ego stages or levels described in Chapter III:

- Impulsive Stage (I-1)
- Self-Protective Stage (D)
- Self-Protective-Conformist Level (D/3)
- Conformist Stage (I-3)
- Conscientious-Conformist Level (I-3/4)
- Conscientious Stage (I-4)
- Individualistic Level (I-4/5)

- Autonomous Stage (I-5)
- Integrated Stage (I-6)

b. Operationalizing the Independent Variable

The description for each ego stage in the previous chapter provides the basis for employing the nine different ego stages as independent variables. In short, each leader's ego will be established to be at one of these stages of ego development.

The instrument that was employed to test for stage of ego development is Loevinger's Sentence Completion Test (SCT) for Men and Women, particularly forms 11-68 for men and 11-68 for women [Ref. 21: pp.143-146]. The validity of the SCT to ascertain ego stage within plus or minus half a stage and of raters to accurately score the tests has been verified in numerous studies [Ref. 24: p.231, Ref. 25: pp.71-76]. It should be pointed out that in fact, what is being measured on the SCT are responses which infer ego development stage. Ego itself can not be measured because it can not be directly scrutinized. See the Appendix for a reproduction of the SCT.

The measurement of ego development stages was performed by three expertly trained raters whose interrater correlation was 87 percent. Merron reports that median inter-rater correlations are typically between 89 percent and 92 percent [Ref. 25: p.69]. The raters apportion an ego stage rating to each sentence completed on the SCT. These sentences are termed *stems*. To accomplish this the raters individually rated each subject's response to a specific stem. The raters then compared the score each had arrived at and then conferred until an agreed upon rating was arrived at for that stem. From the distribution of all stem responses the rater's were able to make an accurate determination of the respondent's thinking and reasoning processes. The rater's judgement of the subject's overall ego stage specifies the world view that the respondent has constructed for himself and is termed the *total protocol rating*. It is not possible to address here the reason that each stem is constructed as it is or how people at different stages of ego development are expected to respond. The interested reader should consult [Ref. 26] for a detailed analysis of stem structure and response expectations.

c. Dependent Variables

The dependent variable measured was leadership effectiveness. Leadership effectiveness is defined as the ability of a person in a leadership position to meet the criteria for effectiveness established by the organization.

d. Operationalizing the Dependent Variables

(1) *Primary Measure.* Military rank is the yardstick by which leadership effectiveness will be measured. It was felt that military rank is expressive of an individual's leadership effectiveness because promotions to higher rank in the military are for the most part based upon the individual's capability to meet the criteria established by the organization. Those persons who do this better than their peers are considered here to be more effective as leaders. This must be the case as it would make no sense for an organization to promote less effective leaders over more effective leaders. If one considers the levels of rank from ensign to flag rank, this supposition is reasonable. The reduced selection rates to flag rank is a function of the more stringent selection criteria. Presumably, the Navy's most effective leaders make the cut and the less effective leaders are forced to retire. The selection process to advance the Navy's finest people obviously occurs at lower ranks too, but sizable numbers are selected for these ranks and a less stringent selection criteria is employed. For example, selection from ensign through lieutenant is virtually guaranteed. If a follow up thesis is carried out using military personnel, the sample should be made significantly larger and consist of individuals at the higher and lower echelons of the rank structure in order to verify that rank and leadership effectiveness are synonymous. For the purposes of this thesis they are assumed to be so.

(2) *Secondary Measure.* Current billet is included as an alternate measure of leadership effectiveness. Billet may serve to differentiate the leadership effectiveness of two individuals who are of equal rank. A lieutenant who is an effective leader would more than likely be assigned a more demanding job than another lieutenant who is a less effective leader if the organization recognized the more effective leader as being such.

E. DATA ANALYSIS

To test the hypothesis, two methods will be used. The first will be a crosstabulation and the second will be a Spearman correlation.

1. Crosstabulation

A crosstabulation will be executed between the rank and ego stage variables to determine frequency of occurrence for each match between a rank category and an ego stage. Crosstabulations of rank and ego stage while controlling for billet and controlling for education will be executed to check for frequency of occurrence of rank categories and ego stage as influenced by billet and as influenced by educational background.

2. Spearman Correlation Test

A Spearman rank-order correlation test will be executed between the variables rank and ego stage. The Spearman correlation test, which is a nonparametric statistical measure, will be used because no assumptions of equal intervals could be made regarding the ego stages. For example, it would be incorrect to say that an individual's ego measured at the I-4 stage was equidistant in development between the I-3/4 and the I-4/5 stages.

The rank and ego stage data plus the rest of the demographic data will be processed using the SPSSX (Statistical Package for the Social Sciences) program resident in the IBM 3033 system at the Naval Postgraduate School's W.R. Church Computer Center. The SPSSX package will be programmed to produce a Spearman Correlation Coefficient matrix containing information concerning the correlation and level of significance between all variables.

V. DATA ANALYSIS AND DISCUSSION

A. INTRODUCTION

This chapter systematically analyzes the data collected during the research. The hypothesis that leaders at higher ego stages are more effective leaders than leaders at lower ego stages, will be tested by doing a correlation between ego stage and rank. This chapter is basically composed of 2 sections. The first section describes the data and tests the hypothesis. The second section discusses the findings presented in the first section.

B. DATA

All data collected are presented below in tabular form and the most significant data are transfigured as bar graphs for further clarity.

1. Variables and Observations

The demographic data (age, sex, education and hobbies) and the variables (rank, ego stage and billet) are each discussed below. The data, where appropriate, are characterized in terms of frequency of occurrence, percentage of occurrence relative to the entire sample, and cumulative percentage. The following statistics: mean, median, mode, standard deviation and variance are included as a further clarification of the data.

a. Age

Table 5 on page 40 presents a division of 8 age groups in 5 year spans. The age group that has the greatest frequency of occurrence is the 36 to 40 year old group. All of the respondents in the sample are between 21 years of age and 50 years of age. Figure 6 on page 43 shows the sample's age distribution is neatly symmetric around the 36 to 40 year old category.

b. Sex

Exactly 80 percent of the respondents were males and 20 percent of the respondents were females as is portrayed in Table 6 on page 41.

c. Education

The table which illustrates the frequency of each educational category is Table 7 on page 42 below. In general, more respondents have college degrees than high school degrees. The college degrees are separated by type however, which leaves the high school degree as the most commonly occurring degree. See Figure 7 on page 45 for a graphical display of the education data.

Table 5. FREQUENCY OF OCCURRENCE FOR AGE GROUPINGS

<i>AGE</i>	<i>VALUE</i>	<i>FREQ</i>	<i>PERCENT</i>	<i>CUM PER- CENT</i>
16-20	1	0	0	0
21-25	2	0	0	0
26-30	3	2	13.3	13.3
31-35	4	3	20.0	33.3
36-40	5	5	33.3	66.7
41-45	6	3	20.0	86.7
46-50	7	2	13.3	100.0
51-55	8	0	0	100.0
<i>MEAN AGE</i>	<i>MEDIAN AGE</i>	<i>MODE</i>	<i>STD DEV</i>	<i>VAR</i>
5.0	5.0	5.0	1.25	1.57

d. Hobbies

Of the respondents, 66.7 percent had at least 2 hobbies. No respondents listed zero hobbies. See Table 8 on page 44 for an overview on the hobby data.

e. Rank

The most commonly occurring officer rank category was 9 which includes both lieutenant commander and lieutenant with previous enlisted service. Categories with common groupings take into account the previous service of warrant officers and commissioned officers who, because of this service, would be assigned greater responsibilities than a typical officer at the junior officer level. This provides a more realistic value for each rank. There were 5 enlisted respondents in the sample with chief petty officer being the most commonly occurring. Table 9 on page 46 shows this variable data in tabular format. See Figure 8 on page 48 for a clear portrayal in bar graph format of the rank variable data.

f. Ego

The table which provides a listing of the ego stage variable data is Table 10 on page 47. The ego stage with in which more respondents fit is the I-4 stage. This stage is characterized by the ability to generate long range plans and a cognitive state that is characterized by conceptual complexity. Note that 53.3 percent of the entire sample comprise this stage of ego development. The next most populous ego stage is

Table 6. FREQUENCY OF OCCURRENCE FOR GENDER

<i>SEX</i>	<i>FREQ</i>	<i>PERCENT</i>	<i>CUM PERCENT</i>
Male	12	80.0	80.0
Female	3	20.0	100.0

the I-3/4 stage. The I-3/4 stage has the characteristic of being able handle a multiplicity of problems but lacks the cognitive sophistication of the I-4 stage. There was one I-3 respondent. This individual's cognitive style is characterized as being conceptually simplistic and prone to believe in stereotypes and relate to others with a superficial niceness. The highest ego stage was a I-4/5. This individual's ego stage is characterized by the ability to distinguish process from outcome as well as by a high degree of conceptual complexity. Table 10 on page 47 shows the frequency of occurrence for each category and Figure 9 on page 50 illustrates this graphically.

g. Billet

Table 11 on page 49 provides a tabular listing of each billet category held by the respondents of the sample. The categories do not describe specific duties as these would be difficult to quantify individually. The approach here is a generic one in which each job is categorized as shown. OIC (officer in charge) is equivalent to department head. Most respondents fell into the DO (division officer) category with a frequency of 46.7 percent. The second most occurring billet category was OIC at 33.3 percent. Relatively speaking, there are more individuals in higher positions of leadership (OIC and DO) than lower leadership positions in this sample.

2. Hypothesis Test

The test of the hypothesis is presented as follows:

- Hypothesis: There is a correlation between the ego stage of leaders and the rank of leaders.
- Null Hypothesis: There is no correlation between the ego stage of leaders and the rank of leaders.

3. Results

a. Crosstabulation

A crosstabulation is presented below in Table 12 on page 51 to support the findings of the hypothesis test above. This table vividly displays the positive association between stages of ego development and rank, the measure of leader effectiveness.

Table 7. FREQUENCY OF OCCURRENCE FOR DEGREES ATTAINED

<i>HIGHEST DEGREE</i>	<i>VALUE</i>	<i>FREQ</i>	<i>PERCENT</i>	<i>CUM PER-CENT</i>
Grade School	1	0	0	0
High School	2	6	40.0	40.0
Associate's Degree	3	4	26.7	66.7
Bachelor's Degree	4	4	26.7	93.3
Master's Degree	5	1	6.7	100.0
<i>MEAN</i>	<i>MEDIAN</i>	<i>MODE</i>	<i>STD DEV</i>	<i>VAR</i>
3.0	3.0	2.0	1.0	1.0

b. Correlation

A spearman correlation was run between the variables ego stage and rank to test the hypothesis; leaders at higher stages of ego development are more effective leaders than leaders at lower stages of ego development. The results are displayed in Table 13 on page 52. The intersection of the ego and rank boxes illustrates the tendency.

- Level of significance: $\alpha = 0.05$
- Criterion: Reject the null hypothesis if $P(R > r) \leq 0.05$ where: R is the name of a random distribution of a sample correlation descriptive of the population having a zero correlation between rank and ego stage and r is the sample correlation coefficient.
- Calculation: $r = .5668$
- Decision: Since $P(R > .5668) = .014$ and $.014 < \alpha$, the null hypothesis is rejected.

C. DISCUSSION

The positive correlation between ego stage of leaders and the rank of leaders support the hypothesis; leaders at higher stages of ego development are more effective leaders than leaders at lower stages of ego development, assuming rank is an accurate measure of leadership effectiveness. While this is only a pilot study, and the sample size is very small, the results are provocative. If these results can be generalized to the larger population, it would seem that a factor in the Navy's selection criteria for promotion of leaders, may be ego level. This further suggests that the Navy is promoting people who

Age Category Frequencies

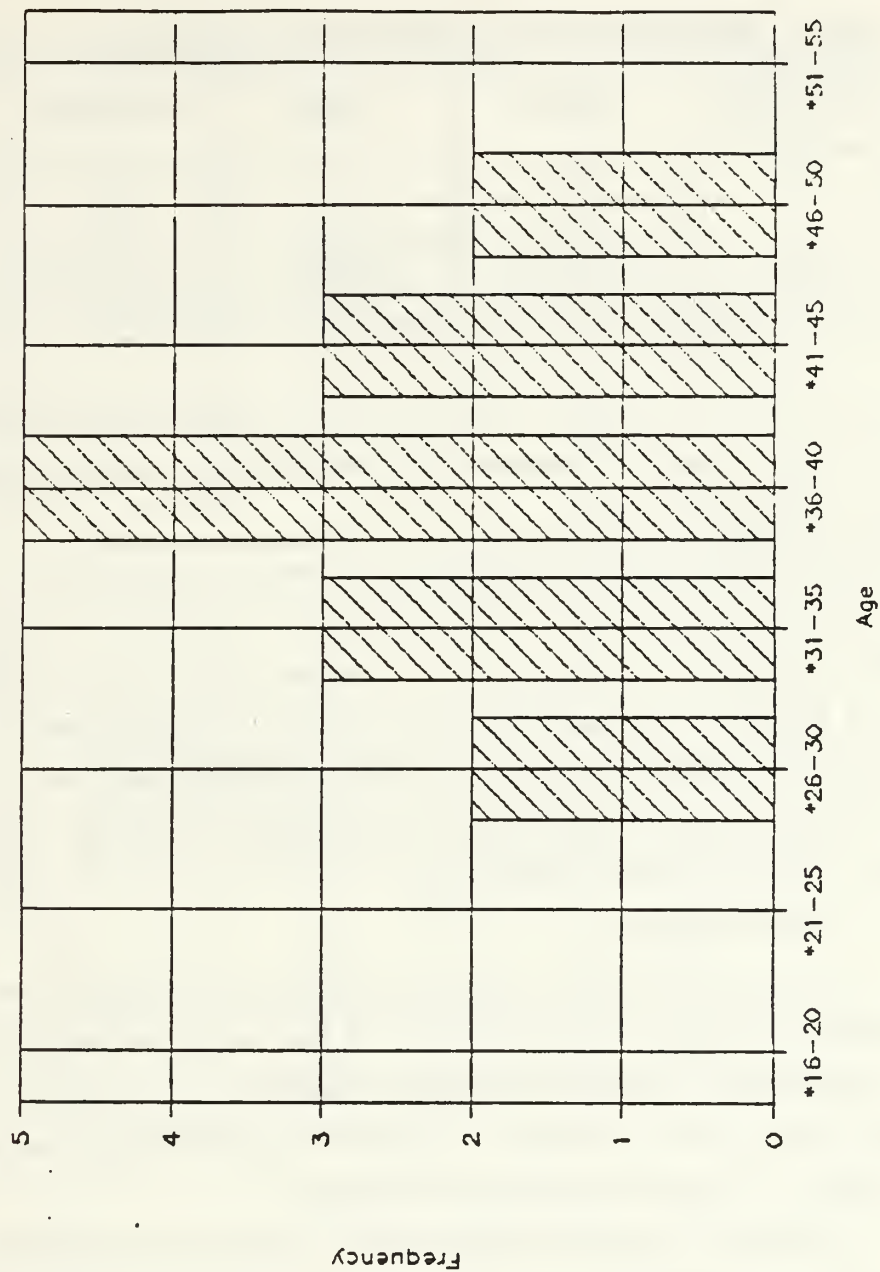


Figure 6. Graph of Age Category Frequencies

Table 8. HOBBIES BY FREQUENCY OF OCCURRENCE

<i>NO. AREAS OF INTER- EST</i>	<i>VALUE</i>	<i>FREQ</i>	<i>PERCENT</i>	<i>CUM PER- CENT</i>
1	1	5	33.3	33.3
2	2	10	66.7	100.0
<i>MEAN</i>	<i>MEDIAN</i>	<i>MODE</i>	<i>STD DEV</i>	<i>VAR</i>
1.7	2.0	2.0	0.49	0.24

are the most effective leaders. If this were not true, there would be as many individuals at lower stages of ego development in the senior military ranks of the sample as there clearly are in the lower ranks.

This inference could be misleading for one major reason however. That reason is the sample population is small. Caution should be exercised when drawing conclusions based on a small *n*. The thesis is to be considered a pilot study for this reason. However, the data correlation data is very strong in favor of the hypothesis. A reexamination of Table 13 on page 52 in terms of some other correlations may tend to shed some light on what part the other variables play in explaining the correlation between ego development stage and leadership effectiveness.

1. Age Considerations

Age does not correlate significantly with any other variables and in fact correlates negatively with educational level and with ego stage. This negative correlation with ego stage supports the assertion made by Loevinger--as expressed in the previous chapter--that except for the stages of childhood ego development, increasing age does not necessarily suggest increasing ego development.

There are 2 plausible explanations for the negative correlation between age and education. One explanation is that at some point in time, the Navy's educational standards have become more stringent on new entrants into the service which would explain why the younger members of the sample are better educated than the older members of the sample as implied by the data. The most likely explanation is that many of the enlisted persons or warrant officers are as old or older than many of the officers but less well educated.

Degree Category Frequencies

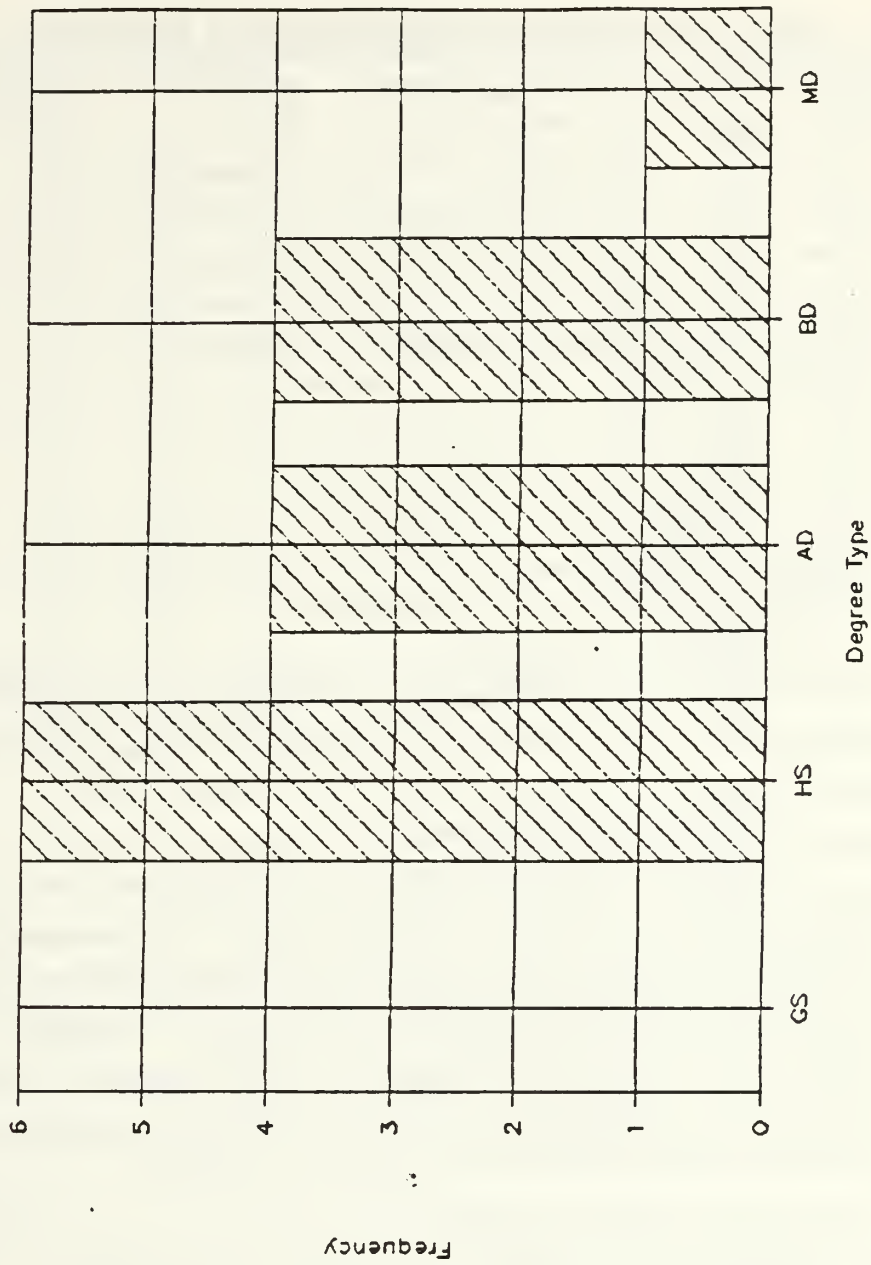


Figure 7. Degree Category Frequencies

Table 9. FREQUENCY OF OCCURRENCE FOR RANK

<i>RANK</i>	<i>VALUE</i>	<i>FREQ</i>	<i>PERCENT</i>	<i>CUM PER- CENT</i>
PO1	1	1	6.7	6.7
CPO	2	3	20.0	26.7
SCPO	3	1	6.7	33.3
MCPO	4	0	0	33.3
CWO1	5	0	0	33.3
ENS, CWO2	6	0	0	33.3
LTJG, ENS(E), CWO3	7	2	13.3	46.7
LT, LTJG(E), CWO4	8	3	20.0	66.7
LCDR, LT(E)	9	4	26.7	93.3
LCDR(E)	10	1	6.7	100.0
<i>MEAN</i>	<i>MEDIAN</i>	<i>MODE</i>	<i>STD DEV</i>	<i>VAR</i>
6.23	8.0	9.0	3.24	10.5

2. Education Considerations

Besides the correlation with age in the discussion above, there are other interesting implications provided by the data obtained. For instance, there is a high degree of correlation between educational status and the variables rank, ego stage and billet. The connection which is most logical is that most of the higher ranks are relatively younger, better educated and assigned to billets that require greater leadership effectiveness. Two crosstabulations were run to explain the connections seen in the correlation data between education, ego stage, rank and billet. The first table is Table 14 on page 52 which depicts a crosstabulation of rank with ego controlling for billet. One can see by inspection of this table that as a leader's rank increases so too does the billet level with a correlation of .8451. However, this table also shows that billet and ego stage only correlate at only .2333.

The second table that will provide an insight to the apparent relationship between ego stage, education, rank and billet is Table 15 on page 53 which is furnished below. Examination of this table shows that leaders who are more effective have a higher level of education. An interesting fact is that no individual with a bachelor degree

Table 10. FREQUENCY OF OCCURRENCE BY EGO STAGE

<i>EGO STAGE</i>	<i>VALUE</i>	<i>FREQ</i>	<i>PERCENT</i>	<i>CUM PER- CENT</i>
I-2	1	0	0	0
D	2	0	0	0
D-3	3	0	0	0
I-3	4	1	6.6	6.7
I-3-4	5	5	33.3	40.0
I-4	6	8	53.3	93.3
I-4-5	7	1	6.7	100.0
I-5	8	0	0	100.0
I-6	9	0	0	100.0
<i>MEAN</i>	<i>MEDIAN</i>	<i>MODE</i>	<i>STD DEV</i>	<i>VAR</i>
5.6	6.0	6.0	0.74	0.54

(BD) has a ego stage less than I-4 in this sample. This finding may indicate that the effectiveness of leaders is in a way a function of education level as well as ego stage. It was pointed out in the last chapter that it was the stage of ego development which provides a person with some of the attributes needed to complete college such as the ability to handle the delay in the gratification of graduating until the educational process is complete. It appears from this small sample that without a high enough level of ego development, the leader is less likely to advance in rank and have the cognitive skills to advance in his education. The lack of a 4 year degree does not prevent a leader from being promoted nor receiving a challenging billet. For instance, the leader with the highest ego stage and the highest billet relative to the sample group, only has an associate's degree (AD).

The officers without at least a bachelor's degree, have previous enlisted service but have attained commissions as warrant officers or as limited duty officers (LDO) through various programs. These individuals most of which have an associate's degree are all of a higher rank than the leaders possessing high school (HS) degrees. This may be accounted for either as a recognition on the part of individuals in the navy that advancement in rank comes with an increased level of education or as the natural consequence of expanding one's education to the limits as allowed by the stage of ego

Rank Category Frequencies

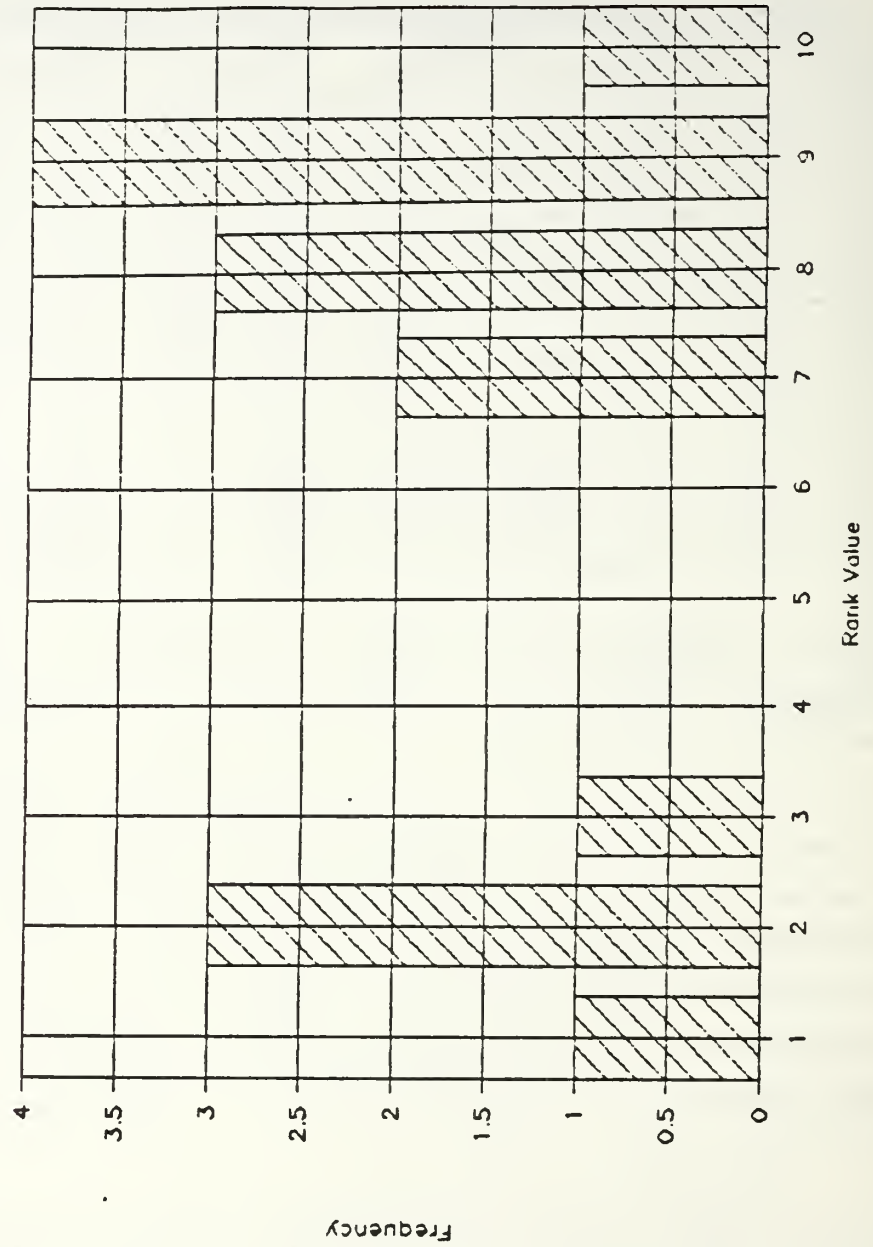


Figure 8. Graph of Rank Category Frequencies

Table 11. FREQUENCY OF OCCURRENCE BY BILLET CATEGORY

<i>BILLET CATEGORY</i>	<i>VALUE</i>	<i>FREQ</i>	<i>PERCENT</i>	<i>CUM PER- CENT</i>
LPO	1	1	6.7	6.7
LCPO	2	2	13.3	20.0
DO	3	7	46.7	66.7
OIC	4	5	33.3	100.0
<i>MEAN</i>	<i>MEDIAN</i>	<i>MODE</i>	<i>STD DEV</i>	<i>VAR</i>
3.07	3.0	3.0	0.88	0.78
LPO = leading petty officer, LCPO = leading chief petty officer, DO = division officer, OIC = officer in charge				

development. The argument can become a circular one but the evidence is clear that greater leadership effectiveness, billet opportunity, educational level and ego development stage all are associated.

3. Billet Considerations

Two variables (billet and ego stage) correlate rather high with a third variable (rank) but correlate low with each other. Two possible explanations are advanced for this occurrence. One explanation has to do with the measurement of the variable and the other explanation is an organizational one.

a. Measurement Problem

The billet variable only allows for 4 possible billet categories (LPO, LCPO, DO, OIC) while the ego stage variable allows for 9 categories. A skewed distribution can result when a large number of the total respondents are disproportionately listed in one category. In Table 11 it can be seen that 7 respondents out of 15 (46.7 percent) are in the division officer (DO) category.

Another measurement consideration is the sample size is small.

b. Organizational Explanation

The low correlation between billet and ego stage may suggest that leaders at higher stages of ego development may be more effective leaders, but are not necessarily awarded the more demanding billets. An alternative organizational explanation proffered is that a fixed amount of time must pass between the time a leader joins an organization and the time he is assigned one of the more challenging billets regardless of his stage of ego development.

Ego Category Frequencies

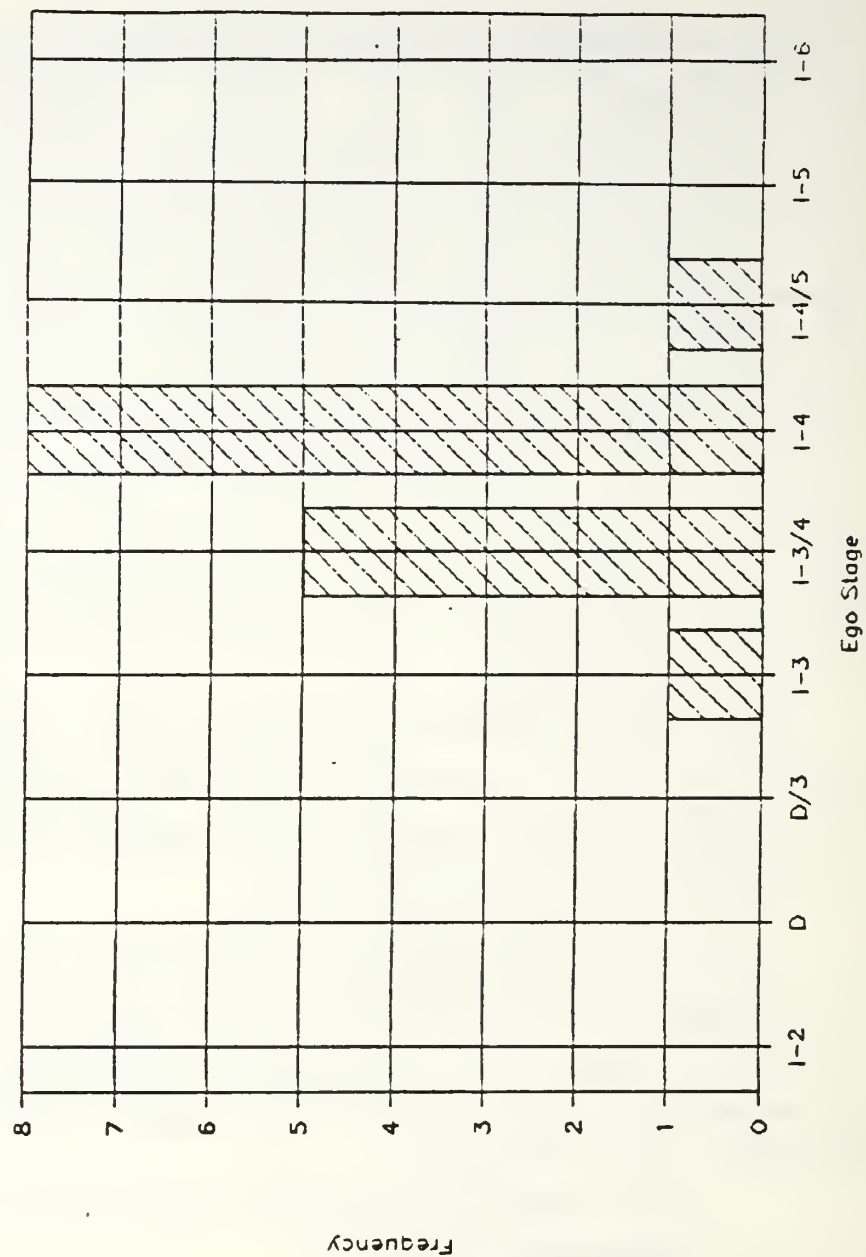


Figure 9. Ego Stage Category Frequencies

Table 12. CROSSTABULATION OF RANK WITH EGO STAGE

	<i>I-3</i>	<i>I-3/4</i>	<i>I-4</i>	<i>I-4/5</i>	<i>ROW TOTAL</i>
<i>PO1</i>		1			1
<i>CPO</i>	1	1	1		3
<i>SCPO</i>		1			1
<i>LTJG, ENS(E), CWO3</i>			2		2
<i>LT, LTJG(E), CWO4</i>		1	2		3
<i>LCDR, LT(E)</i>		1	3		4
<i>LCDR(E)</i>				1	1
<i>COLUMN TOTAL</i>	1	5	8	1	15

D. CONCLUSIONS

It has been shown here that a leader's effectiveness is a function of his stage of ego development. Furthermore, the leader who holds a 4 year degree is more likely to be an effective leader than a leader who does not. The very capability to achieve the advanced degree is itself attributed to one's stage of ego development. Billet is not conclusively shown to be correlated to ego development stage but clearly a lack of leadership effectiveness could preclude a leader from obtaining more challenging billets.

Table 13. SPEARMAN CORRELATION COEFFICIENTS

	<i>RANK</i>	<i>AGE</i>	<i>EDUC</i>	<i>HOB- BIES</i>	<i>EGO STAGE</i>	<i>BILLET</i>
<i>RANK</i>	1.0000 sig = .000	.1457 sig = .302	.7490 sig = .001	.0666 sig = .407	.5668 sig = .014	.8451 sig = .000
<i>AGE</i>	.1457 sig = .302	1.0000 sig = .000	-.1527 sig = .293	.0505 sig = .429	-.0264 sig = .463	.0593 sig = .417
<i>EDUC</i>	.7490 sig = .001	-.1527 sig = .293	1.0000 sig = .000	.0345 sig = .451	.5262 sig = .022	.5892 sig = .010
<i>HOBBY</i>	.0666 sig = .407	.0505 sig = .429	.0345 sig = .451	1.0000 sig = .000	.0181 sig = .474	.1234 sig = .331
<i>EGO STAGE</i>	.5668 sig = .014	-.0264 sig = .463	.5262 sig = .022	.0181 sig = .474	1.0000 sig = .000	.2333 sig = .201
<i>BILLET</i>	.8451 sig = .000	.0593 sig = .417	.5892 sig = .010	.1234 sig = .331	.2333 sig = .201	1.0000 sig = .000

Table 14. CROSSTABULATION OF RANK BY EGO STAGE CONTROLLING FOR BILLET

	<i>I-3</i>	<i>I-3/4</i>	<i>I-4</i>	<i>I-4/5</i>
<i>PO1</i>		LPO(1)		
<i>CPO</i>	DO(1)	LCPO(1)	LCPO(1)	
<i>SCPO</i>		DO(1)		
<i>LTJG, ENS(E), CWO3</i>			DO(2)	
<i>LT, LTJG(E), CWO4</i>		OIC(1)	DO(2)	
<i>LCDR, LT(E)</i>		OIC(1)	OIC(2) DO(1)	
<i>LCDR(E)</i>				OIC(1)

LPO = leading petty officer, LCPO = leading chief petty officer, DO = division officer, OIC = officer in charge, (1) = one person in this category

Table 15. CROSSTABULATION OF RANK BY EGO STAGE CONTROLLING FOR EDUCATION

	<i>I-3</i>	<i>I-3/4</i>	<i>I-4</i>	<i>I-4/5</i>
<i>PO1</i>		HS(1)		
<i>CPO</i>	HS(1)	HS(1)	HS(1)	
<i>SCPO</i>		HS(1)		
<i>LTJG,</i> <i>ENS(E),</i> <i>CWO3</i>			HS(1) BD(1)	
<i>LT,</i> <i>LTJG(E),</i> <i>CWO4</i>		AD(1)	BD(1) AD(1)	
<i>LCDR,</i> <i>LT(E)</i>		AD(1)	MD(1) BD(2)	
<i>LCDR(E)</i>				AD(1)
HS = high school degree, AD = associate's degree, BD = bachelor's degree, MD = master's degree. (1) = one person in this category				

VI. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The purpose of the thesis was to test the hypothesis: leaders at higher stages of ego development are more effective leaders than leaders at lower stages of ego development. The testing of the hypothesis was completed by statistically analyzing the correlation between the stages of ego development of leaders (ego stage was measured by analysis of respondent answers to the Sentence Completion Test) and the leadership effectiveness of leaders (military rank was the measure of leadership effectiveness).

1. Findings

The results of the data analysis are provocative. The results suggest that there is a correlation between the ego stage of a leader and his effectiveness as a leader. Furthermore, the findings of this thesis may provide additional evidence to support Developmental Theory.

2. Implications

The implications of this thesis are most significant in applying Developmental Theory to organizations. For example, the concept of ego development suggests that persons operate in a number of different realities and as such could lead to problems in strategy implementation [Ref. 15: p.227]. If a leader in a corporation is charged with improving a company's competitiveness in the market place, this could entail changes in many areas of the organization and be of a large magnitude. This type of change management, which is called *strategic change management*, often finds managers that head up the strategic change effort fixated on concerns of a tactical nature such as organizational structure, incentive systems, centralization versus decentralization and quality of work programs. While these changes are important, they are not sufficiently broad to reshape an organization in order to carry out a new strategy that will meet the increasingly complex criteria for organizational success. The reason for this is that management often views change from only one perspective. This could lead one to conclude that some of the key players involved in overseeing the organizational restructuring may not have the requisite conceptual complexity needed to handle the strategic change management or that because the organizational reality that one or more of the players exist in terms of their ego stage, does not allow for an appreciation of the complexities involved. For instance, some person within the organization (armed with same

statistics and figures concerning corporate performance as the boss) who is responsible to blueprint a successful change strategy, may not comprehend or interpret information in the same way and as such, cannot recognize that changes other than technical changes need to be made, such as political and cultural changes. A leader with a more advanced developmental stage on the other hand, may look at complex issues such as the need to: account for environmental changes that impact upon organizations, reexamine corporate mission, rework operational objectives at all levels of the organization, engage relevant interest groups for ideas, check out new technology, evaluate communication networks within the organization and consider consensus decision making processes. [Ref. 27: pp.5-7]

Other important implications of this thesis are in the areas of training, selection and placement of leaders in the Navy.

a. Training

The results of this thesis beg the question: if leaders at higher stages of ego development are more effective leaders as suggested, then why not train people so that their ego stages will increase to a higher stage? The answer to this question is that it does not appear likely that training leaders to advance their ego stage is a reasonable objective. The foremost obstacle lies in the nature of the ego itself. As described previously, the ego is a process that can be described as the search for meaning. According to Loevinger, this process can not be coerced as it is the person's own ego that ultimately will decide when and if to advance to the next developmental stage. Loevinger says,

Ego development is growth, and there is no way to force it. One can only try to open doors. It will always be the person's own choice whether he will walk through that door. [Ref. 21: p.426]

Loevinger does leave some hope for change through training by mentioning that most people's egos do not develop to their maximum potential. The potential is not fully realized because people naturally seek situations where the environment is stable and unchanging. Most people's egos advance in development during periods when the environment does not conform to the person's expectations. When the environment does match the person's expectations, then development will cease. Speaking of the child's development, Loevinger says,

As long as the child is operating in an environment that does not conform to his expectations and disconfirms them in a way to pace his growth, he has the potential for further growth. When the child's view of his interpersonal surroundings con-

forms to what really exists, when his expectations match the conduct of those around him, equilibration is achieved and the likelihood of change is small. [Ref. 21: p.311]

As is often the case, persons find a comfortable spot in an organization and do not grow because there is no impetus to grow. This could explain the bureaucratic penchant for inefficiency in many government organizations where quite often, there is no challenge and thus no need for growth. Loevinger's findings leave the door open to the possibility that the ego level can be advanced at least to its full potential through a process of confronting the leader with challenging situations and while this is not training per se, it is a viable alternative. Torbert speaks of the process of advancing one's developmental stage through a process called *action inquiry*. Action inquiry is process to be used in instances of organizational or personal challenge. As action inquiry concerns the individual, it is a process of accounting for as many contingencies as possible and then using them to achieve some organizational goal. This can only be achieved through the learning of *awareness*. Awareness as used by Torbert, is learned through practicing awareness. When one has learned awareness, then perhaps he has realized his full developmental potential. [Ref. 15: pp.159-160] This does not necessarily mean one has attained a stage of development that he was not previously capable of. It could mean he has developed to an ego stage that he had potential for before becoming trapped in situation where there was no need for the ego to advance further in development.

A formal procedure or school to bring about a change in a person's stage of ego development does not appear to be the answer to enhancing organizational effectiveness using developmental theory. It does appear to be possible through a device such as action inquiry to make a leader more aware of the contingencies facing a leader. A leader's ego development and therefore his effectiveness as a leader stand the greatest chance of increasing if the leader accepts new challenges and uses his cognitive skills to practice **being aware to potentialities** that may offer a solution to a complex problem.

The Navy has traditionally moved officers about every two or three years into many **different areas** of which they may not have any expertise. This is the notion of a well rounded officer and may actually be a leader effectiveness enhancing practice for Naval Officers. This could explain why Naval Officers are the most highly sought after of all military officers that depart the service. It could be that Naval Officers may have *learned* to be more effective leaders by the continuous challenges faced in a career.

b. Selection

The use of Developmental Theory for selecting persons for positions of leadership offers interesting implications in terms of applying the thesis results. Some considerations need to be covered. What ego stage is to be matched to a task? Should leaders with high ego stages be placed at every task no matter how complex or simple, or should placement be at a level where his ego level is slightly below what it should be for that particular task?

It would appear to be a waste of manpower by putting high ego level persons at a task where they would not need to use their full capability. Such leaders might not be any more effective than lower stage leaders. Additionally, such placement might cause the higher stage leader to leave the organization in frustration if the leader could not move up the hierarchy fast enough. Additionally, if the leader had not yet reached his full developmental potential, the leader's developmental progress could stagnate as he would not be confronted with environmental challenge.

As an alternative, the organization could put the leader in a task that is very challenging and use this task as a *training ground* for another more challenging task of leadership later on. A problem with this is it may not be known if a leader has reached his maximum potential in terms of his ego development and the organization could be risking putting in an unqualified person for job who will not have the requisite cognitive skills to handle complex tasks or ever advance enough in development to do so.

Selection of leaders to positions of leadership appears to offer more promise than a training program as it would be more preferable to start a leader at some task level and then continuously challenge him so as to provide opportunities for developmental growth.

c. Changing the Situation

Finally, what are implications if we change the organization to *fit* the developmental stage of leaders in the organization. Graves [Ref. 28: p.117] argues that people are more content to have the organization change to meet their particular levels of development. Graves says,

These changes ... rest on a different view of the nature of man from that commonly assumed. In this view, there are succeeding levels of human behavior, and the important thing is to see that the style of management suits the behavior level of the group of workers being managed.

The solution ...,therefore, is not changing people, be they managed or the managing. The solution lies in changing the organization. [Ref. 28: p.117]

It is possible that the reality of organizational life is such that leaders at a given stage of development prefer to remain there and do not seek out higher developmental stages. If this is true, the organization should then not try to get the leader to increase developmental stage to yield more effective leadership but rather the organization should find the best fit between the leader's current level development and the follower's level of development.

d. Dangers

There is a danger that Developmental Theory could be used as a tool to deny persons advancement in an organization if those responsible for selection considered stage of development as the sole criteria for job assignment and advancement. One reason lies in the fact that Developmental Theory is just theory. While there is much evidence to support the suppositions as discussed previously, the field of developmental psychology is relatively new. Another reason is that there are many factors other than a person's ego stage that give managers clues as to how effective a leader may be. One clue is past performance. This is the Navy's primary index as to the capability of a person to fill future positions of leadership. Relying solely on stages of ego development to predict the potential for leadership effectiveness would undoubtedly leave out many other relevant criteria.

B. RECOMMENDATIONS FOR FURTHER RESEARCH

In the course of this research two recommendations became clear if further research is to be done in this area. These recommendations are to do a similar study with a larger sample size and obtain a sample with all military ranks covered from seaman recruit to admiral.

First, a larger sample size is needed in order to decrease the error that is more likely in small samples than in large samples. In this study, the sample size was 15 which is not large enough to claim that sufficient randomization exists in the population to be representative of the entire population. For instance, although the results of the correlation between ego stage and rank are clear, the results of the correlation between ego stage and billet are not clear. A larger sample might prevent a skewed result that we believe to have occurred when many of the respondents fit into one billet category. A larger sample may have prevented this. A larger sample will also lend more credibility to a follow on study.

Second, in addition to increasing the sample size, the distribution of the sample needs to cover all of the pay grades if at all possible. In this study, the sample consisted

of persons in the middle enlisted ranks to persons in the junior officer ranks. A larger distribution of ranks might allow a researcher to determine if leaders at the higher officer ranks such as captain and admiral have even higher stages of ego or determine if there a plateau effect. Such information could provide evidence that the most effective leaders are those chosen for flag rank or alternatively that the most effective leaders depart the service seeking greater challenges.

APPENDIX DATA COLLECTION INSTRUMENTS

These figures are representative of the instruction sheet, demographic variable sheet and sentence completion tests provided to the respondents in the sample.

<p style="text-align: center;">INSTRUCTIONS</p> <ol style="list-style-type: none">1. Lieutenant John Garner, USN, is conducting thesis research in order to complete requirements leading to a Master of Science in Telecommunications Management from the Naval Postgraduate School in Monterey, California:2. PLEASE DO NOT WRITE YOUR NAME ON ANY SHEET! All information you provide is confidential in nature and is for data analysis purposes. Myself and my thesis advisor will be the only persons to have access to this information. NO data will be returned to your organization.3. Fill out the thesis research questionnaire. Note that the questionnaire contains incomplete statements. Please finish each statement in any way you wish. There is no time limit. Please return your completed forms to me and put them in the envelope. There are two pages; please make sure you have completed each one. I appreciate the help you are giving me. Thanks!

Figure 10. Instruction sheet

INFORMATION SHEET

CODE _ _ _ _ _

Do not mark your name on the survey!

Please provide the following information:

1. Rank/Rate _____
2. Age _____
3. Sex (M or F) _____
4. Present Billet _____
5. Previous Military Billets
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____
 - g. _____
 - h. _____
 - i. _____
 - j. _____
6. Check Highest Educational Level Attained:
 - a. Grade School (Eighth Grade) _____
 - b. High School Graduate _____
 - c. Associate's Degree _____
 - d. Bachelor's Degree _____
 - e. Graduate Degree _____
7. Hobbies/Pastimes _____

Figure 11. Demographic Data Form

THESIS RESEARCH QUESTIONNAIRE FOR MEN

1. Raising a family
2. When a child will not join in group activities
3. When they avoided me
4. A man's job
5. Being with other people
6. The thing I like about myself is
7. If my mother
8. Crime and delinquency could be halted if
9. When I am with a woman
10. Education
11. When people are helpless
12. Women are lucky because
13. What gets me into trouble is
14. A good father
15. A man feels good when
16. A wife should
17. I feel sorry
18. A man should always
19. Rules are
20. When they talked about sex, I
21. Men are lucky because
22. My father and I
23. When his wife asked him to help with the housework
24. Usually he felt that sex
25. At times he worried about
26. If I can't get what I want
27. My main problem is
28. When I am criticized
29. Sometimes he wished that
30. A husband has a right to
31. When he thought of his mother, he
32. The worst thing about being a man
33. If I had more money
34. I just can't stand people who
35. My conscience bothers me if
36. He felt proud that he

Figure 12. Sentence Completion Test For Men

THESIS RESEARCH QUESTIONNAIRE FOR WOMEN

1. Raising a family
2. A girl has a right to
3. When they avoided me
4. If my mother
5. Being with other people
6. The thing I like about myself is
7. My mother and I
8. What gets me into trouble is
9. Education
10. When people are helpless
11. Women are lucky because
12. My father
13. A pregnant woman
14. When my mother spanked me I
15. A wife should
16. I feel sorry
17. Rules are
18. When I get mad
19. When a child will not join in group activities
20. Men are lucky because
21. When they talked about sex, I
22. At times she worried about
23. I am
24. A woman feels good when
25. My main problem is
26. My husband and I will
27. The worst thing about being a woman
28. A good mother
29. Sometimes she wished that
30. When I am with a man
31. When she thought of her mother, she
32. If I can't get what I want
33. Usually she felt that sex
34. For a woman a career is
35. My conscience bothers me if
36. A woman should always

Figure 13. Sentence Completion Test For Women

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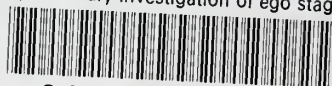
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